



# Free TEAS<sup>®</sup> 7 Practice Test

- 170 Practice Questions
- Detailed Answer Explanations
- Every TEAS<sup>®</sup> 7 Subject Covered
- Personal Score Report
- **Bonus:** Expert TEAS<sup>®</sup> Tips and FAQs



## Introduction

Dear Future Nurse,

**Welcome to your copy of NurseHub's Free ATI TEAS® 7 Practice Test.**

Inside, you'll find a test for each TEAS® subject area (Reading, Mathematics, Science, and English Language and Usage) followed by detailed answer explanations and a score report that links directly to lessons in our full TEAS® 7 courses for efficient, targeted studying.

We want you to succeed, so please download, print, and use this test as many times as you'd like. Also, feel free to share it with your friends, family, and any nursing advisor who's been guiding you through the process.

You've got this!

**Happy studying,  
Your Team at NurseHub**

PS: We know how important passing this exam is for your journey into nursing school, and we're always here to help. If you have any questions or feedback, our dedicated Learner Success team is here for you 24/7. Click [here](#) or click on the chat bubble on NurseHub.com.



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# TEAS FAQs

## What is the TEAS® 7?

The TEAS® 7, or Test of Essential Academic Skills™ Version 7, is a standardized entrance exam used by nursing schools and allied health programs. The test is meant to indicate to the school whether you're prepared and have the skills needed to succeed in their programs before you start.

## Why is the TEAS® exam important?

The TEAS® exam is a critical component of the nursing school application process, as it evaluates a candidate's preparedness for entering a nursing program. Many nursing schools require applicants to achieve a minimum TEAS® score as part of their admission criteria.

## What subjects are tested?

The TEAS® is composed of 4 main subject areas, each further divided into specific sub-content areas:

### 1. Reading

- Key ideas and details
- Craft and structure
- Integration of knowledge & ideas

### 2. Math

- Numbers and algebra
- Measurement and data

### 3. Science

- Human anatomy & physiology
- Biology
- Chemistry
- Scientific reasoning

### 4. English and Language Usage

- Conventions of standard English
- Knowledge of language
- Using language and vocabulary to express ideas in writing

## How many questions are on the test?

There are 150 scored questions and 20 unscored questions on the TEAS® exam for a total of 170 total questions.

Note that you won't know which questions are scored during your actual exam. These unscored questions are mixed in with the others, so you should approach every question as if it counts towards your final score.

Here's the breakdown by subject:

- **Reading: 45 total questions (39 scored + 6 unscored)**
  - Key ideas and details (15)
  - Craft and structure (9)
  - Integration of knowledge & ideas (15)
- **Math: 38 questions (34 scored + 4 unscored)**
  - Numbers and algebra (18)
  - Measurement and data (16)

- **Science: 50 questions (44 scored + 6 unscored)**
  - Human anatomy & physiology (18)
  - Biology (9)
  - Chemistry (8)
  - Scientific reasoning (9)
- **English and Language Usage: 37 questions (33 scored + 4 unscored)**
  - Conventions of standard English (12)
  - Knowledge of language (11)
  - Using language and vocabulary to express ideas in writing (10)

## How much time do I have to finish?

There is a time limit for each section of the exam:

- **Reading:** 55 minutes (45 questions)
- **Math:** 57 minutes (38 questions)
- **Science:** 60 minutes (50 questions)
- **ELU:** 37 minutes (37 questions)

The total time for the exam is 209 minutes, which is just under 3.5 hours.

With 170 questions in 209 minutes, you have about 1 minute and 13 seconds per question. Time is limited, so preparation is key. That's why [NurseHub's TEAS prep](#) includes 10 full test simulations for each subject (40 total) and thousands of practice questions to boost your accuracy and speed.

## Are all the questions multiple-choice?

The test consists mostly of multiple-choice questions. But there are 4 new question types that have been added to the TEAS® 7.

- **Multiple Select:** There will be 4 or more answer choices, and there may be more than one correct option. The question will instruct you to "select all that apply." Be careful because any incorrect choices selected or any correct options left unselected will lead to the question being marked as incorrect.
- **Fill in the Blank:** You will not be provided any answer options. These questions test your knowledge and ability to recall information without being guided by the provided options.
- **Hot Spot:** You will be given an image with 2 - 5 clickable hotspots. Click on the area that the question is asking about to answer these correctly.
- **Ordered Response:** These questions ask you to accurately arrange a set of provided responses. Each question will present you with 4 - 6 responses, which you must carefully drag and place from a box on the left to a corresponding box on the right.

## How do I register to take the exam?

You can sign up for the TEAS® on ATI's website.

## When should I schedule my exam?

When scheduling your TEAS® exam, it's advisable to plan for at least 6 weeks of studying, as recommended by ATI. This time frame allows you to thoroughly prepare for the various sections of the exam. Additionally, consider that score reports take 72 hours to post after taking the test. This could be crucial if you have application deadlines to meet.

So, when determining the best time to schedule your exam, factor in at least 6 weeks for preparation and an additional 3 days for the score report. Align this with the deadlines and requirements of the nursing programs you are applying to in order to maximize your chances of success.

## Can I take the TEAS® at home?

Yes, you can take the TEAS® at home online, or in-person at your school or nearest PSI Testing Center.

If you take it at home, you'll need a computer with a webcam and microphone and a stable internet connection. A remote proctor will monitor you through your computer's webcam to ensure the integrity of the exam.

Before you begin, you may also need to show your workspace to the proctor, so make sure to have everything set up according to the guidelines provided by the testing agency.

## Can I reschedule my test?

Rescheduling your exam depends on the location of your test. Here's an overview:

- **Online:** Rescheduling or refunding is not possible without documented proof of an emergency. Once purchased, the date is final. In case of emergencies like death in the family or medical issues, exceptions can be made by contacting [proctor@atitesting.com](mailto:proctor@atitesting.com) with detailed information and documentation.
- **At your school:** Similar to at-home exams, rescheduling or refunding requires a documented emergency. Contact [comments@atitesting.com](mailto:comments@atitesting.com) with the required details.
- **At a PSI Testing Center:** You can reschedule your exam up to 48 hours before the start date/time via the ATI website or by calling PSI Candidate Services at 833-537-1330.

## How much does it cost to sit for the exam?

The cost to take the TEAS® can vary depending on the location and institution, with prices typically ranging from \$60 to \$140. It's advisable to check with the specific testing center or the school to which you are applying, as they may have additional fees or offer discounts for their students.

## Is the TEAS® proctored?

Yes, the TEAS® is always proctored, whether you take it online, at your school, or at a PSI Testing Center.

- **Online:** If you choose to take the test at home, a remote proctor will monitor you through your computer's webcam to ensure the integrity of the exam.
- **At school:** You'll be in a room with a live proctor present to oversee the exam.
- **At a PSI Testing Center:** You'll be in a room with a live proctor present to oversee the exam. Proctoring is used to maintain the security and fairness of the test, so all examinees are monitored during the examination process.

## Can I take bathroom breaks?

You are allowed a 10-minute bathroom break after completing the Mathematics section.

During this break, you cannot access personal items like cell phones or notes, and taking excessive time may lead to a review of your exam.

After the break, you can proceed to the Science section.

The exam sections follow this order: Reading, Mathematics, Science, and English and Language Usage.

## Is scratch paper allowed?

Yes, but only 1 piece. If you test on location, you will be given 1 piece of scratch paper. If you test at home, you are allowed to use scratch paper, but you must show it to the online proctor, including the amount of scratch paper you have.

## Can I use a calculator?

Yes, most schools permit the use of a calculator during the test, but you cannot bring your own. Instead, you will be provided with a basic four-function (add, subtract, multiply, divide) calculator on your screen, similar to the calculator app on your phone or computer.

## What should I bring on test day?

You'll want to bring some essential items with you, including:

1. **Valid Photo ID:** This could be a driver's license, passport, or other government-issued identification with your photograph and signature. It's used to verify your identity.
2. **Admission Ticket or Confirmation:** If applicable, bring the admission ticket or confirmation email you received when you registered for the test.
3. **Water and Snacks:** Depending on the test center's policy, you may be able to bring water and snacks for breaks.

Note: Personal items such as bags, mobile phones, calculators (unless provided by the test center), and other electronic devices are typically not allowed in the testing room. There may be designated areas to store these items during the test, but it's best to check with the testing center ahead of time.

## When will I get my results?

Scores should be posted within 48 business hours. If you are testing at a PSI testing center, your results can take up to 72 business hours to appear in your account.

## Can I submit my scores to multiple programs?

Yes, you can send your scores to more than one school by purchasing additional transcripts or Transcript Credits through ATI. You will see an option to send transcripts below your TEAS exam results.

## How is the TEAS® scored?

Your TEAS® score report will include three types of scores, each calculated differently:

1. **Total Score:** This score is calculated using a method called equating. Some questions are weighted more heavily, and the total score reflects a combination of easier and harder questions. It's the overall measure of how you performed on the entire exam.
2. **Content Area Scores:** These scores are calculated in the same way as the total score but are specific to each of the four main content areas (Reading, Math, Science, and English). They show how well you did in each subject.
3. **Sub-Content Area Scores:** These scores represent the percentage of questions you answered correctly in specific sub-areas within the content areas. For example, if you answer 4 out of 8 chemistry questions correctly, your Chemistry Sub-Content Area score would be 50%.

In summary, all these scores range from 0% to 100%, but they're calculated differently. The Total and Content Area Scores, in particular, are adjusted to give more weight to more challenging questions.

## What is considered a passing score?

A passing score for the TEAS® test varies by school, and you should contact your school directly to find out the specific score that is considered passing. Most schools typically require at least a 70%. However, it's important to note that merely achieving a passing grade may not be enough, as some schools admit students based on the highest scores. Therefore, you should aim for the highest score possible, not just the minimum passing grade.

## How many people fail the TEAS®?

According to the makers of the exam, 40% of people fail the TEAS® on their first attempt.

## What happens if I fail?

If you fail the TEAS®, it's important not to be too discouraged.

Here's what you should do before retaking your exam:

- **Research Retake Opportunities:** Many schools and testing centers allow you to retake the TEAS after a waiting period. Be sure to check with your specific institution for their retake policy, as it may vary.
- **Evaluate Your Performance:** Review your score report to identify areas where you may need improvement. Focus on those areas in your study preparation for the next attempt.
- **Consider Your Options:** Talk to the admissions office of the school you're applying to. Depending on the school, a lower score may not necessarily disqualify you from admission.
- **Join NurseHub:** If you've failed the TEAS® before, seeking additional resources like this PDF is a great next step. But the best thing you can do is [become a NurseHub member](#) and complete our comprehensive [TEAS Review Courses](#) - they come with a pass guarantee.

◇ Need inspiration? [Check out these future nurses who failed the TEAS the first time and then passed using NurseHub.](#)

Note: If you sign up for NurseHub and complete our TEAS® courses, you get a pass guarantee. Our comprehensive courses are designed to help you succeed and feel confident on test day. We're here to support you every step of the way!

Learn more about our pass guarantee at [nursehub.com/teas](https://nursehub.com/teas).

## How many times can I take it?

The number of times you can take the ATI TEAS® exam depends on individual nursing or allied health school policies. While ATI doesn't set a limit on attempts, many schools do. Some institutions allow multiple retakes, possibly with a waiting period in between, such as 30 days or even 1 year. You should consult directly with the schools you're interested in for their specific guidelines.

## Will I see the same questions if I retake the exam?

ATI uses multiple versions of the TEAS® test, so you will not encounter the same test twice. However, each variation follows the same structure and breakdown.

## What's the biggest mistake students make on the TEAS?

40% of students take the TEAS® test more than once, often due to not properly reviewing the concepts before taking the exam. By downloading this PDF, you're already avoiding the biggest mistake people make, which is to not adequately prepare for the exam.

## How long should I study?

It varies from person to person. While ATI recommends allocating 6 weeks for preparation, the actual time needed largely depends on your familiarity with the material. Some have succeeded with just a week of studying, while most need 3 months to properly prepare. Either way, you are starting on the right path with this free practice test, as it will help you identify areas needing more focus, which will guide your study plan.



## What is the best way to study for the TEAS®?

### **Step 1. Take this free practice test.**

Congratulations! You are already doing the first step by going through this free practice test!

### **Step 2: Pinpoint your focus areas.**

Fill out the detailed score report at the end of this practice test to help you identify your strengths and focus areas.

### **Step 3. Review with NurseHub.**

Use the links in the score report to navigate directly to the corresponding video lessons for areas you need to focus on the most. If you're not a premium member of NurseHub yet, you can sign up [here](#).

### **Step 4. Count on 24/7 Support.**

Need help? NurseHub's 24/7 TEAS® exam support ensures that you're never alone. Real people are available anytime, anywhere, to assist you.

### **Step 5. Go into your test with confidence with our pass guarantee!**

You will receive a certificate upon completing each of NurseHub's four subject-specific TEAS® courses. This collection of certificates is your pass guarantee. If you earn the course completion certificate and don't pass that exam section, we will refund your money and pay for you to take the test again.

# NurseHub FAQs

## How close are NurseHub's practice tests to the TEAS®?

We make our practice tests as close as possible to the real TEAS® 7 exam so you are as prepared as possible when you take it. NurseHub teaches you all of the concepts that you will see on the exam so you feel prepared and confident going in.

## Can't I just read study guides?

Study guides are a fine resource, but they fall short in 6 areas:

- 1. Paperback study guides cannot simulate the real testing experience.** NurseHub's simulations, unlike written tests in books, mirror the look and feel of the actual computerized exam, offering a true-to-life preparation experience.
- 2. Traditional study guides can be cumbersome and slow to navigate.** NurseHub's digital platform is easy to navigate between specific subjects and skills, allowing quick access to lessons, practice questions, and detailed answers without flipping through pages.
- 3. Paperback guides are often bulky and lack the flexibility to include comprehensive content.** NurseHub's online resources are not only more convenient, but have been designed to cover the full range of topics and skills that are tested on the TEAS®.
- 4. Study guides are usually updated only once a year, risking outdated content if the test changes mid-year.** NurseHub consistently updates our material to ensure relevance, so you always have access to the most current information.
- 5. Study guides don't support everyone's unique learning styles.** NurseHub's TEAS® courses include easy-to-follow video lessons, interactive elements, downloadable resources, and thousands of practice questions with in-depth answer explanations that allow you to use what works best for you.
- 6. You're on your own with study guides.** Have you ever tried contacting a book publisher? It's impossible. NurseHub's Learner Success team is available 24/7 to answer all of your questions and is dedicated to helping you pass the TEAS® on your first try.

## What about the free stuff I found online?

The problem with free stuff you find online is that there are no guarantees that it is accurate, up-to-date, or good enough to help you pass on your first try. We talk to folks every day who failed on their first try because they relied solely on the free stuff they found online, but they were ultimately underprepared.

Don't risk being surprised and disappointed on test day. By signing up with [NurseHub](#), you can rest easy knowing you have exactly what you need in order to pass on your first try.

## What happens after I sign up for NurseHub?

Immediately after completing our secure checkout, you will be automatically signed in to your account. You will receive an email with a receipt and your payment details. Our entire course catalog will be available to you right away, and you can leave and come back to study at any time simply by signing back in with the e-mail address and password you create during checkout.

## Can I use NurseHub on my mobile device?

Absolutely! You can switch to any other computer or mobile device at any time and continue practicing from where you left off. You'll need to sign in with the same e-mail address and password that you used to sign up. All your progress will be available on any device because that data is stored on our server for you.

## Are NurseHub's questions the same as the real exam?

No. We take great care in developing realistic and challenging questions, answers, and detailed explanations to teach you all the content you need to know to pass your exam; however, we cannot know, nor could we legally or ethically provide the exact questions and answers you will see on your exam. NurseHub is a site developed by teachers, nurses, and nursing educators for you to learn – not to memorize.

## How do NurseHub's instructors develop their courses?

NurseHub's professional educators analyze and break down every concept and topic your exam will test. They then craft easy-to-follow lessons for each tested skill to fully prepare you for your exam. They also carefully build out thousands of practice questions that look like the ones from the real exam with thorough, detailed, step-by-step answer explanations so that you can effectively and efficiently learn the content and excel on exam day.

## How does the pass guarantee work?

NurseHub has 4 TEAS® courses, one for each of the tested subjects on the exam (Reading, Math, Science, and English & Language Usage). Each course comes with a pass guarantee. If you successfully complete a course, we promise you a passing grade on that section ATI TEAS® 7. Therefore, if you complete all 4 courses, you will have a pass guarantee for the entire exam.

To claim, just send us an email or chat message with your full name and the email address used at purchase, along with a photo of your score report and the minimum score required at your school.

Then, we will check your account to make sure you've successfully completed the required course(s). Once that is confirmed, will refund up to 3 more months of your membership, plus pay for you to retake your exam.

Please note that we cannot guarantee acceptance into your preferred program. We can only guarantee that you receive a score that is equal to or higher than the school's published target score.

## When will I get charged?

You will be charged once you sign up and then on the same day every month until you decide to cancel your subscription.

## Will my subscription automatically renew?

Yes, your subscription will automatically renew each month until you decide to cancel.

## Can I cancel my subscription at any time?

Yes, you can cancel at any time by going to your account settings or reaching out to our [learner success team](#).

## How can I get in touch with someone at NurseHub?

You can send us an email at [support@nursehub.com](mailto:support@nursehub.com) or [start a chat](#) with one of our learner success representatives at any time.

## How can I sign up for NurseHub?

Sign up to become a NurseHub member at any time here: <https://nursehub.com/teas>

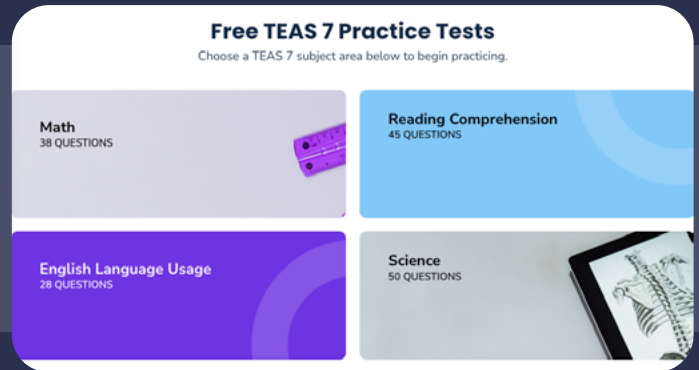
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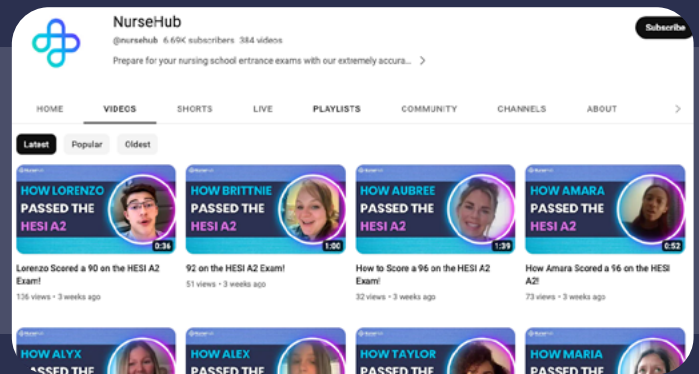
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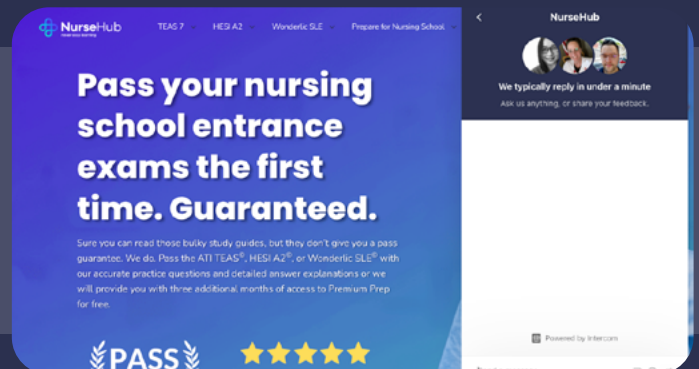
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Subscribe to our [YouTube channel](#) and watch our practice test walkthrough and what to study on the TEAS® videos!



If you have any questions or concerns, please don't hesitate to reach out to us using our [on-site chat](#). Our Learner Success team is there 24/7 ready to help you.





# TEAS<sup>®</sup> 7

## Reading Practice Test

## Brilliant Octopuses

When thinking of intelligent animals, dolphins and elephants may be the first to come to mind. However, researchers have observed octopuses to be startlingly brilliant creatures. Octopuses have displayed curious behavior, such as pulling out loose tank valves, opening jars, and escaping their tanks when no one was watching. In 2010, a German octopus named Paul was even said to have correctly predicted the outcome of all seven of Germany's games during the South African World Cup. Octopuses, of which the earth is home to about 300 distinct species, are cephalopods, and have exceptionally large brains for non-mammals.

According to Jennifer Mather, a comparative psychologist at the University of Lethbridge in Alberta, Canada, the quality that makes octopuses smart is their ability to apply learned information. For example, when given a mussel and a clam to eat, the octopus chose the mussel as they are easier to open. However, when offered clams on the half-shell, the octopus pivoted away from mussels—deciding to go with the new simplified option. These creatures proved capable of complex problem-solving. When opening the shells, octopuses employed a variety of techniques, such as chipping away at the shell and injecting the clam with poison to weaken the mollusk, and even using their salivary papilla to drill a hole and inject the toxin. The octopuses chose which strategy to use based on which species they were presented with, and altered their approach to what would work best. As humans, this makes sense to us, but most animals would simply repeat the same technique, despite receiving the same results.

Further evidence of the intelligence of octopuses can be found in their desire to play, a behavioral trait of exceptional animals. Mather and her colleague Roland Anderson placed an octopus and an empty pill bottle in an otherwise empty tank. Although nothing happened at first, eventually the octopus blew water at the bottle, causing it to go over a jet and then return to the octopus. The animal repeated this behavior, similar to what a human might exhibit when bouncing a ball—exploring the options for engaging with a new stimulus. These clever creatures have even been documented shooting water at aquarium workers, and deliberately tampering with various aspects of their tanks, inciting leaks and malfunctions. Octopuses remain a common animal for humans to keep and study in captivity. Their remarkable intelligence and display of complex behavior traits invites study and further consideration, at the very least.

**1. Which of the following is a condensed summary of the key ideas in paragraph 2?**

- a. Octopuses are brilliant creatures, due largely in part to their ability to identify a mussel as easier to eat than a clam.
- b. Octopuses use their salivary papilla to drill holes and inject toxins when consuming mollusks.
- c. One of the best examples of the intelligence of octopuses is their ability to apply learned information and adjust to the most appropriate strategy when solving a problem.
- d. Simple animals employ the same techniques repeatedly, but octopuses are creative innovators.

**2. Which of the following is a reasonable conclusion that can be drawn from the passage as a whole?**

- a. If placed in a new environment, an octopus would likely explore their surroundings and interact with any novel stimuli.
- b. Octopuses are the most intelligent creatures on Earth.
- c. Octopuses are likely capable of and would enjoy playing catch with an aquarium worker.
- d. Octopuses only eat clams and mussels.

**3. Which of the statements from the passage best presents the topic of the passage?**

- a. In 2010, a German octopus named Paul was even said to have correctly predicted the outcome of all seven of Germany's games during the South African World Cup.
- b. Octopuses remain a common animal for humans to keep and study in captivity. Their remarkable intelligence and display of complex behavior traits invites study and further consideration, at the very least.
- c. One of the best examples of the intelligence of octopuses is their ability to apply learned information and adjust to the most appropriate strategy when solving a problem.
- d. However, researchers have observed octopuses to be startlingly brilliant creatures.

**4. Which detail is irrelevant to the main idea?**

- a. The octopuses chose which strategy to use based on which species they were presented with, and altered their approach to what would work best.
- b. Octopuses, of which the earth is home to about 300 distinct species, are cephalopods.
- c. The animal repeated this behavior, similar to what a human might exhibit when bouncing a ball—exploring the options for engaging with a new stimulus.
- d. Octopuses have displayed curious behavior, such as pulling out loose tank valves, opening jars, and even escaping their tanks when no one was watching.

**To: Residents of 207 North 7th Street**  
**From: LeasingNYC**  
**Date: March 15, 2022**  
**Subject: Water Heater Inspection**

Our yearly inspection of individual apartment water heaters will begin on Monday, March 21st. This yearly inspection required by NYC housing law will be conducted in each unit. Starting today, you will be able to log into your resident portal and schedule a time for a maintenance team member to inspect your water heater. This inspection should take no longer than 10 minutes. If you have been experiencing issues with your hot water, this is an excellent time to speak to maintenance and solve the problem.

Although we recommend that you are present for the inspection, you may also select a time when you will not be home. If this is the case, please be sure to select the box "I AUTHORIZE A MAINTENANCE TEAM MEMBER TO ENTER MY APARTMENT WITHOUT MY PRESENCE" when choosing a time and date. If your water heater closet has any items currently stored in it, these items will need to be removed before the inspection. Please note that, for safety reasons, LeasingNYC does not recommend that any personal items are stored within close proximity to the water heater.

The yearly inspection window will end on Friday, March 25th. If you have not selected a time on or before that day, a maintenance team member will come by your apartment for an inspection. If you are not at home or refuse entry, NYC housing will be notified. A representative from NYC housing will be able to enter your residence without your permission to complete the inspection, as required by law. As always, if you have any questions, please use the portal to connect with your LeasingNYC representative.

**5. How long is the window for residents of 207 North 7th Street to have water heater inspections conducted before the NYC housing authority is contacted?**

- a. The window is one day.
- b. The window is one month.
- c. The window is one week.
- d. The window is unlimited.

**6. What is the main idea of the passage?**

- a. Residents of 207 North 7th Street have been having issues with their water heaters.
- b. Maintenance team members of 207 North 7th Street and NYC housing representatives work together to ensure that all water heaters are inspected.
- c. Building management at 207 North 7th Street needs cooperation from residents to ensure that each unit's water heater is inspected.
- d. Residents at 207 North 7th Street must use their portal to conduct all communication.

**7. Which of the following is a logical conclusion that can be drawn from paragraph two?**

- a. Some residents have been storing personal items in their water heater closet.
- b. Most residents do not want to authorize a maintenance team member to enter their apartments.
- c. Most residents will need to authorize a maintenance team member to enter their apartment while unoccupied.
- d. No residents store personal items in their water heater closet.

**8. Which of the following is a supporting detail for the necessity of the water heater inspection?**

- a. If you have been experiencing issues with your hot water, this is an excellent time to speak to maintenance and solve the problem.
- b. If your water heater closet has any items currently stored in it, these items will need to be removed before the inspection.
- c. The yearly inspection window will end on Friday, March 25th.
- d. This yearly inspection required by NYC housing law will be conducted in each unit.

### Why Daylight Saving Time?

During World War I, several European countries initiated daylight saving time as a wartime practice to conserve the fuel used by electricity for indoor lighting. It was adopted by the United States shortly afterward, but abandoned due to unpopularity following the end of the war. Reinstated by FDR during World War II, it was rendered optional afterward. Use continued to be optional and therefore created highly irregular and confusing schedules for transportation, radio, and TV throughout the 1960s.

President Johnson ended the confusion in 1966 by signing The Uniform Time Act. However, any state wishing to do so was able to opt out of Daylight Saving Time observance by passing a state law. Today, only Arizona and Hawaii do not observe. Daylight Saving Time is celebrated in the fall by those wishing to gain an hour of sleep, and those in the spring invigorated by the longer days. Unfortunately, children often struggle to adjust to these changes to their schedule, especially where sleep and waking times are concerned. This is particularly irritating for parents. Regardless of your preference for Daylight Saving Time, it seems poised to persist in the United States, temporarily disrupting our schedules twice a year.

**9. Which of the following is a fact from the text? Select all that apply.**

- a. This is particularly irritating for parents.
- b. Regardless of your preference for Daylight Saving Time, it seems poised to persist in the United States and temporarily disrupt our schedules twice a year.
- c. During World War I, several European countries initiated daylight saving time as a wartime practice to conserve the fuel used by electricity for indoor lighting.
- d. Daylight Saving Time is only observed in the United States.
- e. Reinstated by FDR during World War II, it was rendered optional afterward.

**10. Which of the following statements from the passage expresses an opinion?**

- a. Unfortunately, children often struggle to adjust to these changes to their schedule, especially where sleep and waking times are concerned.
- b. It was adopted by the United States shortly afterward, but abandoned due to unpopularity following the end of the war.
- c. President Johnson ended the confusion in 1966 by signing The Uniform Time Act.
- d. Today, only Arizona and Hawaii do not observe.

- 11.** Planning a dinner party can be stressful and time-consuming, but is ultimately worth it when you find yourself surrounded by great friends and delicious food! The first step is to create a guest list (being cognizant of food allergies, restrictions, and preferences) and then select a date and invite your guests. After that, you're able to plan a menu, solicit any help needed, and choose decor if you desire!

**Which event comes last in the sequence?**

- a. Choosing the decor
- b. Creating a guest list
- c. Enjoying the dinner party
- d. Making a list of food allergies

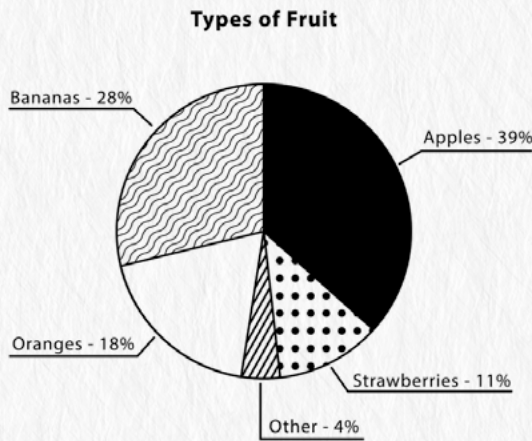
**12. 4556928816**

Using the number string above, replace every 5 with the letter G, every 6 with the letter R, every 9 with the letter D, every 2 with the letter W, every 1 with the letter L. For consonants that appear more than once in a row, keep only the first instance of those letters. Change the multiples of 4 to A.

- a. AGGRDWAAL
- b. AGRDWAALR
- c. AGRDWAL
- d. AGGRDWAALR



13.

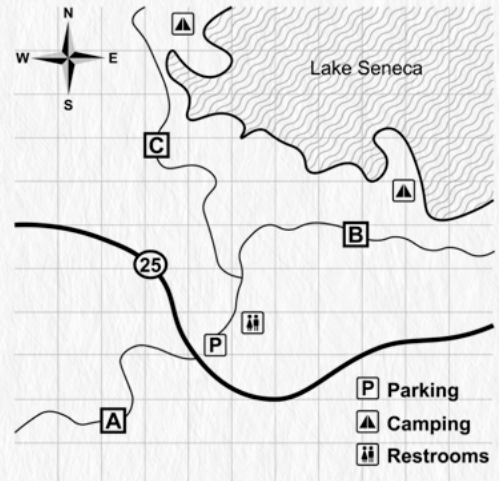


A study was conducted among college freshmen concerning favorite fruits and test scores. Students were asked their favorite fruit and given their selection as a snack directly before an exam. Evidence has shown that individuals who consume higher amounts of berries and citrus fruits are more likely to score higher on an exam than those that consume starchy fruits such as bananas and apples. This could be due to the research surrounding berries as high-powered 'brain food', and the instances of starchy fruits inducing sleepiness.

**The pie chart shows the percentage of fruits preferred by college freshmen at Trinity Community College. Which of the following statements is true based on the pie chart and explanation?**

- Around 30% of the students are expected to score higher on the exam than the other 70%.
- Around 70% of the students are expected to score higher on the exam than the other 30%.
- More students chose citrus and berries as their favorite fruit, likely in an effort to score higher on their exams.
- Apples are the most highly preferred fruit and therefore those students who selected apples will score the highest.

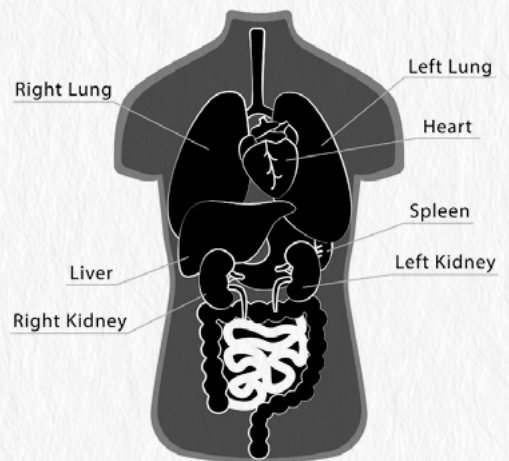
14.



**Which of the following statements is accurate based on the map?**

- Lake Seneca is the northernmost feature on the map.
- There is only one designated camping spot near Lake Seneca.
- Parking is located near the restrooms.
- The restrooms and parking are located east of Lake Seneca.

15.



**Which of the following can be concluded by referencing the illustration?**

- The kidneys are the uppermost organs in the body.
- The right and left lung mirror each other in placement.
- The liver is below the left lung.
- The heart is directly above the spleen.

### Strategies for Sleeplessness

Sleep. Elusive for many of us, the majority likely agree that we aren't getting enough. The stress and unpredictability of the past two years while living through a pandemic have exacerbated sleep issues for many. According to some studies, as many as 30–50% of adults suffer from some type of insomnia. Fortunately, scientists and sleep specialists have identified simple practice steps for better, more fulfilling sleep. Many of the suggested steps are a return to the very basics of sleep hygiene.

First, consider the environment you create for rest. A bedroom should resemble a cave – dark, silent, and cool. Wearing an eye mask or using blackout shades shuts out unwanted light. If you live in a noisy urban environment, try a white noise machine. The ideal sleeping temperature might be chillier than you think – experts suggest between 60–67 degrees Fahrenheit.

Additionally, creating a bedtime routine is just as crucial for adults as it is for children. Following a prescribed set of steps each evening shows the body it is time for sleep. For most, this should include turning off technology (social media, television, your laptop) at least an hour before bedtime, and instead reading a book or listening to a calming podcast or music. Going to bed too full or too hungry can also interfere with a good night's rest – have a snack if you need to, but make sure you aren't eating dinner just before bedtime.

Exercise is crucial to our overall wellness, and that translates into our sleeping lives at night. While many of us have formed a complex relationship with exercise over the pandemic, experts continue to say it is vital for restorative sleep; but not too close to bedtime. Finish your workout several hours before bed to allow your body temperature to begin to decline and regulate.

Finally, many of us lay awake at night with our worries. Sleep scientists suggest maintaining a notebook next to your bed to quickly scribble down those worries as they pop into our heads (Did I sign the permission slip? Respond to that email?). Removing them from our thoughts frees up our consciousness for rest. Set aside a time each day to read over these notes. Although the pandemic and stressors of everyday life have made sleep a fleeting experience for many, better rest IS achievable with a few simple tweaks to your habits.

**16. What is the structure of the passage?**

- a. Descriptive
- b. Sequence
- c. Cause-effect
- d. Problem-solution

**17. What of the following characterizes the author's perspective about the topic of the passage?**

- a. Ambivalent
- b. Empathetic
- c. Concerned
- d. Sentimental

**18. Which of the following is an antonym for the word "exacerbated" as used in the first paragraph? Select all that apply.**

- a. Alleviated
- b. Aggravated
- c. Created
- d. Diminished
- e. Enjoyed

### Colon Cancer On The Rise In Young Adults

An alarming uptick in colorectal cancer has affected mostly younger adults. Over the past thirty to fifty years, the rates in people younger than 50 have been steadily on the rise, resulting in those born in the year 1990 having double the risk of colon cancer and quadruple the risk of rectal cancer compared to those born in the year 1950<sup>1</sup>. The reason for this trend is mostly unknown, although some researchers point to obesity, sedentary lifestyles, and poor eating habits as likely culprits.

<sup>1</sup> According to 2021 data pulled from the ACS (American Cancer Society).

**19. What is the purpose of the footnote in this excerpt?**

- a. To reveal the source of the author's information
- b. To place a spotlight on the American Cancer Society
- c. To show the recency of the data
- d. To help the reader better understand the passage

### Yellow Cake Bar Blondies

These delectable bars are easy to make, use commonly found ingredients, and are perfect for any occasion! You can even add frosting on top for an extra special treat.

#### Ingredients:

- 1 box of yellow cake mix
  - 5 tablespoons of butter, melted
  - 2 eggs
  - Chocolate chips
  - 1 teaspoon vanilla extract
1. Preheat the oven to 350 degrees Fahrenheit and grease a 9"x13" pan.
  2. Beat 2 eggs until fluffy.
  3. Stir in yellow cake mix and vanilla.
  4. Melt butter and wait until somewhat cool before adding. (If too hot, the butter will cook eggs)
  5. Stir in chocolate chips and pour the mixture into a pan.
  6. Bake at 350 for 20 minutes or until a fork placed in the center comes out clean.

**20. Which of the following is the source of this passage?**

- a. YA novel
- b. An oven manual
- c. A food and beverage magazine
- d. Entertainment magazine

**21. These delectable bars are easy to make, use commonly found ingredients, and are perfect for any occasion!**

**Which of the following is the closest meaning to "delectable" in the sentence above?**

- a. Complicated
- b. Delicious
- c. Ideal
- d. Understated

**22. What is the purpose of the last sentence of the introductory paragraph?**

- a. To tell the reader how to finish the dessert
- b. To tell the reader what ingredients they will need
- c. To tell the reader what to do with the butter
- d. To tell the reader who would enjoy this recipe

### The Dewey Decimal Classes:

- 000 Computer science, information, and general works
- 100 Philosophy and psychology
- 200 Religion
- 300 Social sciences
- 400 Languages
- 500 Science and mathematics
- 600 Technical and applied science
- 700 Arts and recreation
- 800 Literature
- 900 History, geography, and biography

**23. While researching ancient India, Jasmine became interested in the origins of Buddhism. To which section of the library should she go to read more about Buddhism?**

- a. 200
- b. 400
- c. 800
- d. 900

**24. A music student is studying examples of early 21st-century pop musicians. Which of the following is a primary source that the student could use for this topic?**

- a. A biography about early 21st-century pop musicians
- b. An art museum exhibition of costumes worn by early 21st-century pop musicians
- c. An album of music by an early 21st-century pop musician
- d. An album of music by an early 21st-century pop musician released before the year 2000

### Pets for Seniors

With a nationally aging population, nursing homes and assisted living facilities are a necessity throughout the United States. While these places have a multitude of negative and positive connotations, one thing is clear. Giving seniors the responsibility of a pet improves their happiness, life expectancy, and overall well-being. Faced with long monotonous days, the excitement and dependency of a pet gives seniors something to be in charge of and invigorated by. Studies have shown the ownership and responsibility of a cat, dog, hamster, or even a fish, have dramatically improved the outlook of seniors. Pets encourage daily exercises, such as walking, and socialization between residents and their respective animals. Residents of nursing homes and assisted living facilities have reported that owning a pet fosters joy and love, and reduces stress and boredom.

**25. What is the primary argument of the passage?**

- a. A cat or dog is a better pet than a fish.
- b. The number of seniors in the United States is a fast-growing national issue.
- c. Seniors are unhappy.
- d. Owning a pet improves the lives of seniors in nursing homes.

### Make Cooking Fun!

Hey there, work-from-home warriors! Cooking is a tedious and unfortunately, daily task, made even more so by the onset of a recent global pandemic. However, with the advent of subscription cooking boxes, this chore can become easier and more enjoyable! Delivered to your door with all of the ingredients and instructions to make a meal, these services take the guesswork out of grocery shopping and selecting which meals to make. You can choose the number of weekly meals you would like to receive, and enter preferences for dietary restrictions around meat and dairy. Some subscription services even offer the option of pre-cut ingredients. Take the hassle out of grocery shopping and cooking, and sign up for meal boxes today!

**26. Which of the following statements from the passage indicates a stereotype?**

- a. Take the hassle out of grocery shopping and cooking, and sign up for meal boxes today!
- b. Cooking is a tedious and unfortunately, daily task, made even more so by the onset of a recent global pandemic.
- c. However, with the advent of subscription cooking boxes, this chore can become easier and more enjoyable!
- d. You can choose the number of weekly meals you would like to receive, and enter preferences for dietary restrictions around meat and dairy.

### Social

Pose and make it perfect	Twitter, fast-paced, informative.
Let them see you	A source of pure entertainment.
As you want to be seen	A fountain of rally cries.
Stay on top of it. All of it.	A necessary evil.
If you're not thinking about this,	Get the word out, so they can never look away.
You should be.	But does it do more harm than good?
Share, then forget.	Use with caution or you might be burned.

**27. Which of the following is the theme of the poem?**

- a. Everybody lies.
- b. News is most trustworthy in print.
- c. Be careful whom you trust.
- d. Of all social media, Twitter is best.

**28. Which of the following has a contrasting theme to that of the poem?**

- a. A story about a man who lovingly lent money to his brother.
- b. A song by someone warning the other of a cheating partner.
- c. A movie that tells a cautionary tale about friendship, family, and trust.
- d. A magazine article about a man who donates to every GoFundMe he sees.

### Binge Drinking and Experimental Drug Use in College Students

All college students are exposed to unprecedented levels of binge drinking and illicit drug use. Early on, they are tempted to engage in these risky behaviors. Distracting from their studies and contributing to declining mental health, drug and alcohol use is inherently a major problem across college campuses in the United States. One study from the American Addiction Centers found that almost half of all college students nationally displayed symptoms of at least one substance abuse disorder. A 2019 Monitoring the Future Survey discovered the highest instances of the use of marijuana, cocaine, hallucinogens, and MDMA to be among college-aged young adults.

Why are college students so likely to engage in binge drinking and drug use? The answer may lie in turmoil experienced while adapting to a major life change and living in new circumstances. Many college students travel a great distance to their colleges, and live without their families, in particular older, more responsible adults, for the first time. A desire to experiment is a natural inclination, as is the pressure to fit in and assimilate with new peers. College students are also bridled with the double pressure of deadlines, challenging classes, and the novel responsibility to handle it all on their own. Many, unwisely, turn to the temporary escape offered by drugs and alcohol.

- 29. Which of the following is a logical conclusion that could be made about the experience of college students?**
- Most college students are able to resist the lure of drugs and alcohol.
  - College students that engage in risky behavior will perform lower academically.
  - College students engage with drugs and alcohol as it is more readily available.
  - College students that engage in risky behavior will ultimately suffer from mental health issues.
- 30. Which of the following statements from the passage indicates a stereotype?**
- A desire to experiment is a natural inclination, as is the pressure to fit in and assimilate with new peers.
  - All college students are exposed to unprecedented levels of binge drinking and illicit drug use and are tempted to engage in these risky behaviors.
  - One study from the American Addiction Centers found that almost half of all college students nationally displayed symptoms of at least one substance abuse disorder.
  - Many college students travel a great distance to their college, and live without their families, in particular older, more responsible adults, for the first time.

### Learning From Blue Zones

Identified by Dan Buettner in 2004, the five original Blue Zones are communities found throughout the world where people are found to live the longest and healthiest lives. These Blue Zones are Sardinia, Italy; Okinawa, Japan; Ikaria, Greece; Nicoya, Costa Rica; and Loma Linda, California. Globally, we all want to live longer, healthier lives. These five communities provide us with excellent case studies and strategies to achieve this universal goal. Focused on fitness, eating habits, and overall mindset, all Blue Zones share several common practices that contribute to a long, well-lived life.

Although the five Blue Zones are found in very different cultures, the norm in each is a plant-based diet. Members of these communities eat little meat, with importance on beans. Other tenets of the diet include whole grains, tubers, greens, and nuts. Experts say any beans will provide benefits but should mix up the type when possible. Further, residents of Blue Zones eat small amounts of dairy, including eggs. The drinking habits of these five groups place an emphasis on water and tea, consumed throughout the day, and no more than two glasses of (red) wine daily.

Frequent walking is a central component of life in Blue Zones. Three of the five, Okinawa, Sardinia, and Ikaria, are located in hilly geographic regions with narrow roads. Walking is a necessary part of daily tasks, and often leads to sociable interaction. These communities are full of people who form close bonds through their daily activities. Humans are sociable creatures, and these relationships contribute to an overall sense of well-being and a positive outlook on life.

The five Blue Zones illustrate easy-to-implement ways to improve our lives and increase our chances of longevity, a unanimously held goal. Further study will only provide more insight into the lessons to be gleaned from the places where people live the longest and are happiest.

- 31. Which of the following is an inference that could be made about the smoking habits of people living in Blue Zones?**
- Blue Zone residents are likely avid smokers.
  - Blue Zone residents may be smokers, but their healthy diets outweigh the negative effects of smoking.
  - Blue Zone residents are not likely to be smokers.
  - Blue Zone residents may be smokers, but they prefer vaping over traditional cigarettes.

**32. What is a claim that the author makes in the passage?**

- a. Okinawa, Sardinia, and Ikaria are the most important Blue Zones.
- b. Eating a plant-based diet is crucial to health.
- c. We have much to learn from the five Blue Zones.
- d. While interesting to study, the standards of Blue Zones are unattainable.

### Rising Sea Levels

Coastal communities, often the most desirable places to live, face numerous risks from climate change. While rising sea levels contribute to flooding, they can also threaten the quality of drinking water. These floods bring salinized water inland, damaging water purification systems and harming the drinking water of local populations. Vulnerable members of a community, such as pregnant people or people with hypertension, are at an increased risk from drinking salinized water. Solutions exist and include specialized systems in desalination plants, sea walls, and dikes, however many of these water utilities are already budget strained and lack the funds and resources necessary to keep up with the increasing demand of climate change. Experts suggest the implementation of “smart water systems”, or a network of advanced sensors that would raise the alarm when an unhealthy level of salinity was reached, and then a contingency plan that includes a backup water source when necessary. Although a potentially costly solution, flooding in coastal communities is a nuisance unlikely to improve in the near future.

**33. Which of the following is an inference that could be made about the effects of climate change?**

- a. Salinity in water from coastal flooding is only harmful to those with compromised immune systems.
- b. Coastal flooding issues can be solved with a desalinization system.
- c. Coastal flooding is not likely to improve in the near future.
- d. Coastal water purification systems are already unsafe.

### Why Breakfast Matters

We’ve all heard that breakfast is the most important meal of the day. However, what you choose to ingest is just as important. Beginning your day with a low sugar and hearty meal rooted around vegetables will provide you with energy and jump-start your metabolism. Good for you fats, from foods such as avocados or eggs are always a good idea, as are whole grains in the form of toast or oatmeal. Protein is vital and can be found in nuts, nut butters, and lean meats. Be careful with smoothies and yogurts, as these breakfast items are often hiding high amounts of sugar. However, it is noteworthy that some nutritionists suggest that if you must consume sweets, the best time to do it is first thing in the morning, giving your body the whole day to burn it off. If you’re looking to improve your overall well-being, try starting each day with a protein-packed, vegetable and grain-based breakfast.

**34. Which of the following is a counterargument in the passage?**

- a. Smoothies and yogurts are excellent breakfast options.
- b. Low sugar breakfasts are best for a healthy lifestyle.
- c. Some nutritionists suggest consuming sugar first thing in the morning.
- d. Protein is the most important component of breakfast.

### Quantum Effects in Bird Migration

As children, we learn that birds migrate to warmer climates in the winter. But how do birds know how to find their way? Like sailors of the past, birds use the celestial world above us as a compass. However, scientists have recently discovered birds are able to ‘see’ and use the Earth’s magnetic field as an additional migratory map. Formed photochemically in the eyes of a bird, small quantum effects in brief molecular pieces, called radical pairs, suggest that birds are essentially able to see the magnetic field lines of our Earth and use that as a guide along their journey. Magnetoreception, or using a magnetic field to perceive direction, seems to be equally as important for migrating birds as the stars and other celestial bodies in the skies. Birds’ possession of these special quantum eye traits are so developed that in a laboratory, even if the magnetic field is inverted, birds experience no disruption to their sense of orientation. Next time you observe migrating birds, marvel at their unique capability to navigate between temporal homes, year after year.

*“Next time you observe migrating birds, marvel at their unique capability to navigate between temporal homes, year after year.”*

**35. Which of the following sentences from the passage is evidence to reinforce the claim presented in the above statement?**

- a. As children, we learn that birds migrate to warmer climates in the winter.
- b. Formed photochemically in the eyes of a bird, small quantum effects in brief molecular pieces, called radical pairs, suggest that birds are essentially able to see the magnetic field lines of our Earth and use that as a guide along their journey.
- c. Birds' possession of these special quantum eye traits are so developed that in a laboratory, even if the magnetic field is inverted, birds experience no disruption to their sense of orientation.
- d. Magnetoreception, or using a magnetic field to perceive direction, seems to be equally as important for migrating birds as the stars and other celestial bodies in the skies.

**Adopt, Don't Shop**

Are you thinking of welcoming a dog or cat into your home? Although all types of pets can be a great addition to any family, it is always best to check your local animal shelters instead of buying a pet from a breeder or pet store. In the United States alone, over one million adoptable dogs and cats in animal shelters are euthanized each year due to a lack of space and funding. Recognizing the severity of this issue is of utmost importance, and we should all do our part to help animals in need.

**36. Which of the following characterizes the mode of the passage?**

- a. To inform
- b. To persuade
- c. To describe
- d. To satirize

**37. Which of the following sentences is a logical addition to the end of the passage?**

- a. When you adopt a pet, you not only gain a new furry friend, but you can help save a life, too!
- b. Most pet stores are known to raise their prices for certain dog breeds, which contributes to an unnecessary competition between pets.
- c. We should all make a monetary donation to our local pet shelters, as they need more support.
- d. In order to make sure your pet transitions well from the shelter to your home, you should prepare your house accordingly.

If you experience any issues with the product in the first 30 days of use, please call our Customer Service hotline to receive a free replacement.

**38. In which of the following sources would the sentence above most likely be found?**

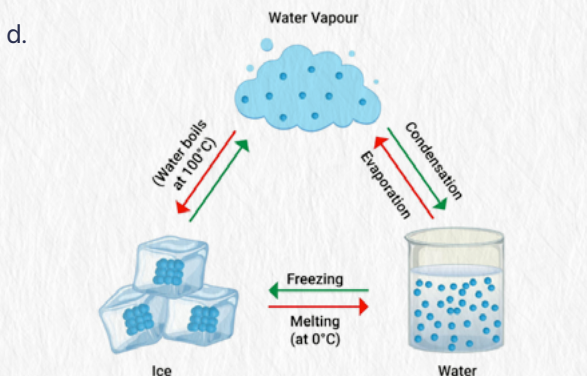
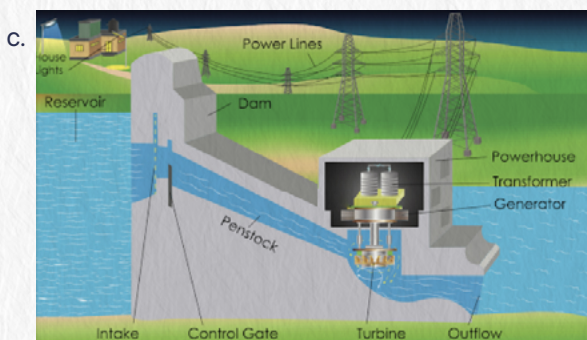
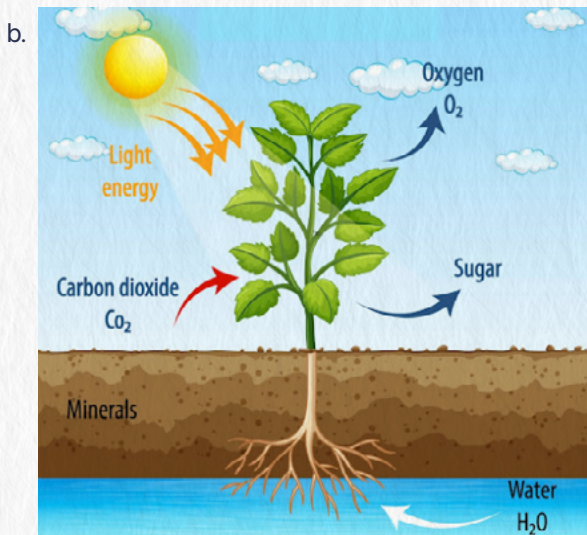
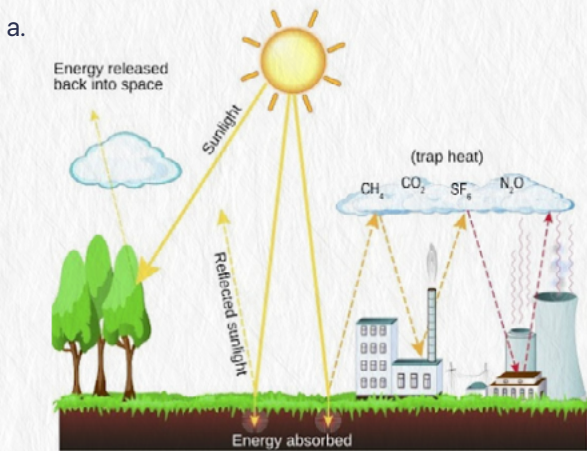
- a. A textbook
- b. An anthology
- c. A warranty
- d. A handbook

**39. Which of the following sources is most appropriate for finding information about how to format a research paper?**

- a. An index
- b. An almanac
- c. A user manual
- d. A style guide

**40. Brad makes \$11.25 an hour working at HEB as a cashier. He recently received a promotion and will now be paid \$15.50 an hour. If he works 40 hours per week, how much more is he getting paid? (Round to the nearest dollar. Do not include a dollar sign, comma, or decimal point.)**

41. Which of the following images is indicative of how greenhouse gasses affect the atmosphere?



42. Which of the following is an element used in research papers that gives credit to referenced work from other authors?

- a. Materials and methods
- b. Abstracts
- c. Citations
- d. Acknowledgments

43. Many different engineers are responsible for the concept behind escalators, originally known as “Revolving Stairs”, created in the late nineteenth century. The idea was first developed by engineer Jesse Reno, but credit was ultimately given to Charles Seeberger after a long series of redesigns and negotiations. Seeberger later partnered with Otis Elevator Co., which coincidentally, remains the global leader in escalator and elevator manufacturing to this day. Improved technology has helped guarantee a safer experience for passengers now, but the simple process has remained substantially the same over the years.

Which of the following words signifies sequence?

- a. Now
- b. Substantially
- c. Coincidentally
- d. Ultimately

44. Write the following in the correct order they would be found in a text.

- a. Title Page
- b. Abstract
- c. Afterword
- d. Table of Contents


45. What is the definition of the word permeable as used in context?

Wood is permeable to oil because it soaks up the substance.

- a. absorbent
- b. impenetrable
- c. sticky
- d. adaptive



# Answers:

My Total Score \_\_\_\_ / 45

- |     |     |     |  |
|-----|-----|-----|--|
| 1.  | C   | 24. | C  |
| 2.  | A   | 25. | D  |
| 3.  | D   | 26. | B  |
| 4.  | B   | 27. | C  |
| 5.  | C   | 28. | D  |
| 6.  | C   | 29. | C  |
| 7.  | A   | 30. | B  |
| 8.  | D   | 31. | C  |
| 9.  | C,E | 32. | C  |
| 10. | A   | 33. | C  |
| 11. | C   | 34. | C  |
| 12. | B   | 35. | B  |
| 13. | A   | 36. | B  |
| 14. | C   | 37. | A  |
| 15. | B   | 38. | C  |
| 16. | D   | 39. | D  |
| 17. | B   | 40. | \$170  |
| 18. | A,D | 41. | A  |
| 19. | A   | 42. | C  |
| 20. | C   | 43. | D  |
| 21. | B   | 44. | Title Page<br>Table of Contents<br>Abstract<br>Afterword |
| 22. | A   | 45. | A  |
| 23. | A   |     |  |

# Score Sheet:

**Directions:** Use the score tracker below to mark off which questions you answered correctly and which ones you got wrong. The corresponding skill title is the name of the lesson in our [TEAS 7 Reading Course](#). Click on each link to learn more about that topic and continue to practice in order to improve your score in that area.

Question	Correct?	Topic
1		<a href="#">Summarize a Multi-Paragraph Text</a>
2		<a href="#">Infer Logical Conclusions From a Text</a>
3		<a href="#">Identify the Topic or Main Idea</a>
4		<a href="#">Identify Supporting Details</a>
5		<a href="#">Identify Information From a Printed Communication</a>
6		<a href="#">Summarize a Multi-Paragraph Text</a>
7		<a href="#">Infer Logical Conclusions From a Text</a>
8		<a href="#">Summarize a Multi-Paragraph Text</a>
9		<a href="#">Distinguish Between Fact and Opinion</a>
10		<a href="#">Distinguish Between Fact and Opinion</a>
11		<a href="#">Interpret Events in a Sequence</a>
12		<a href="#">Demonstrate Comprehension of Written Directions</a>
13		<a href="#">Evaluate and Integrate Data From Multiple Sources</a>
14		<a href="#">Identify Information From a Graphic</a>
15		<a href="#">Identify Information From a Graphic</a>
16		<a href="#">Recognize Text Structure</a>
17		<a href="#">Evaluate the Author's Point of View or Perspective in a Given Text</a>
18		<a href="#">Interpret the Meaning of Words and Phrases Using Context</a>
19		<a href="#">Locate Specific Information in a Text</a>
20		<a href="#">Analyze Types of Writing</a>
21		<a href="#">Interpret the Meaning of Words and Phrases Using Context</a>
22		<a href="#">Evaluate the Author's Purpose in a Given Text</a>
23		<a href="#">Use Dictionary and Library Entries</a>
24		<a href="#">Identify Primary Sources</a>
25		<a href="#">Evaluate an Argument</a>
26		<a href="#">Identify Biases and Stereotypes</a>
27		<a href="#">Compare and Contrast the Themes Expressed in One or More Texts</a>
28		<a href="#">Compare and Contrast the Themes Expressed in One or More Texts</a>
29		<a href="#">Use Evidence From the Text to Make Predictions, Inferences, and Draw Conclusions</a>
30		<a href="#">Identifying Biases and Stereotypes</a>
31		<a href="#">Use Evidence From the Text to Make Predictions, Inferences, and Draw Conclusions</a>
32		<a href="#">Evaluate an Argument</a>
33		<a href="#">Use Evidence From the Text to Make Predictions, Inferences, and Draw Conclusions</a>
34		<a href="#">Evaluate an Argument</a>
35		<a href="#">Evaluate an Argument</a>
36		<a href="#">Evaluate the Author's Purpose in a Given Text</a>
37		<a href="#">Evaluate the Author's Purpose in a Given Text</a>
38		<a href="#">Analyze Types of Writing</a>
39		<a href="#">Analyze Types of Writing</a>
40		<a href="#">Use Evidence From the Text to Make Predictions, Inferences, and Draw Conclusions</a>
41		<a href="#">Identify Information From a Graphic</a>
42		<a href="#">Analyze Types of Writing</a>
43		<a href="#">Interpret Events in a Sequence</a>
44		<a href="#">Locate Specific Information in a Text</a>
45		<a href="#">Interpret the Meaning of Words and Phrases Using Context</a>
Total	___/45	

**Directions:** Use your completed score sheet on the previous page to identify which TEAS 7 Reading topics you should prioritize studying if you have limited time. Each link in the table below takes you directly to the corresponding lesson in our [TEAS 7 Reading Course](#), so you can start studying right away!

Section	Topic	Questions	Score
<b>Key Ideas and Details</b>	<a href="#">Identify the Topic, Main Idea, and Supporting Details</a>	3, 4	___/2
	<a href="#">Summarize a Multi-Paragraph Text</a>	1, 6, 8	___/3
	<a href="#">Infer Logical Conclusions From a Text</a>	2, 7	___/2
	<a href="#">Demonstrate Comprehension of Written Directions</a>	12	___/1
	<a href="#">Locate Specific Information in a Text</a>	19, 44	___/2
	<a href="#">Identify Information From a Printed Communication</a>	5	___/1
	<a href="#">Identify Information From a Graphic</a>	14, 15, 41	___/3
	<a href="#">Interpret Events in a Sequence</a>	11, 43	___/2
<b>Craft and Structure</b>	<a href="#">Distinguish Between Fact and Opinion</a>	9, 10	___/2
	<a href="#">Identifying Biases and Stereotypes</a>	26, 30	___/2
	<a href="#">Interpret the Meaning of Words and Phrases Using Context</a>	18, 21, 45	___/3
	<a href="#">Use Dictionary and Library Entries</a>	23	___/1
	<a href="#">Evaluate the Author's Purpose in a Given Text</a>	22, 36, 37	___/3
	<a href="#">Recognize Text Structure</a>	16	___/1
	<a href="#">Analyze Types of Writing</a>	20, 38, 39, 42	___/4
	<a href="#">Evaluate the Author's Point of View or Perspective in a Given Text</a>	17	___/1
<b>Integration of Knowledge and Ideas</b>	<a href="#">Using Evidence From the Text to Make Predictions, Inferences, and Draw Conclusions</a>	29, 31, 33, 40	___/4
	<a href="#">Compare and Contrast Themes Expressed in One or More Texts</a>	27, 28	___/2
	<a href="#">Evaluate an Argument</a>	25, 32, 34, 35	___/4
	<a href="#">Identify Primary Sources</a>	24	___/1
	<a href="#">Evaluate and Integrate Data From Multiple Sources Across Various Formats</a>	13	___/1

## Brilliant Octopuses

When thinking of intelligent animals, dolphins and elephants may be the first to come to mind. However, researchers have observed octopuses to be startlingly brilliant creatures. Octopuses have displayed curious behavior, such as pulling out loose tank valves, opening jars, and escaping their tanks when no one was watching. In 2010, a German octopus named Paul was even said to have correctly predicted the outcome of all seven of Germany's games during the South African World Cup. Octopuses, of which the earth is home to about 300 distinct species, are cephalopods, and have exceptionally large brains for non-mammals.

According to Jennifer Mather, a comparative psychologist at the University of Lethbridge in Alberta, Canada, the quality that makes octopuses smart is their ability to apply learned information. For example, when given a mussel and a clam to eat, the octopus chose the mussel as they are easier to open. However, when offered clams on the half-shell, the octopus pivoted away from mussels—deciding to go with the new simplified option. These creatures proved capable of complex problem solving. When opening the shells, octopuses employed a variety of techniques, such as chipping away at the shell and injecting the clam with poison to weaken the mollusk, and even using their salivary papilla to drill a hole and inject the toxin. The octopuses chose which strategy to use based on which species they were presented with, and altered their approach to what would work best. As humans, this makes sense to us, but most animals would simply repeat the same technique, despite receiving the same results.

Further evidence of the intelligence of octopuses can be found in their desire to play, a behavioral trait of exceptional animals. Mather and her colleague Roland Anderson placed an octopus and an empty pill bottle in an otherwise empty tank. Although nothing happened at first, eventually the octopus blew water at the bottle, causing it to go over a jet and then return to the octopus. The animal repeated this behavior, similar to what a human might exhibit when bouncing a ball – exploring the options for engaging with a new stimulus. These clever creatures have even been documented shooting water at aquarium workers, and deliberately tampering with various aspects of their tanks, inciting leaks and malfunctions. Octopuses remain a common animal for humans to keep and study in captivity. Their remarkable intelligence and display of complex behavior traits invites study and further consideration, at the very least.

### 1. Which of the following best summarizes paragraph 2?

- a. Octopuses are brilliant creatures, due largely in part to their ability to identify a mussel as easier to eat than a clam.

- b. Octopuses use their salivary papilla to drill holes and inject toxins when consuming mollusks.
- c. **One of the best examples of the intelligence of octopuses is their ability to apply learned information and adjust to the most appropriate strategy when solving a problem.**
- d. Simple animals employ the same techniques repeatedly, but octopuses are creative innovators.

### One of the best examples of the intelligence of octopuses is their ability to apply learned information, and adjust to the most appropriate strategy when solving a problem.

This answer summarizes the main idea of the entirety of paragraph 2. The paragraph provides details about what makes octopuses so intelligent, but overall the main point is that they are able to apply learned information. Another clue is that this is stated in the first sentence of the paragraph. Often, but not always, the main idea of a paragraph will be in the first sentence.

### Octopuses are brilliant creatures, due largely in part to their ability to identify a mussel as easier to eat than a clam.

This is incorrect. This is a supporting detail, not the main idea of the paragraph.

### Octopuses use their salivary papilla to drill holes and inject toxins when consuming mollusks.

This is incorrect. This is a specific detail that illustrates how an octopus attacks a problem. It is incorrect because it does not summarize what the paragraph is mainly about.

### Simple animals employ the same techniques repeatedly, but octopuses are creative innovators.

This is incorrect. This is incorrect because it is more about comparing octopuses to other animals than about what makes octopuses intelligent, which is what the paragraph is mostly about.

### 2. Which of the following is a reasonable conclusion that can be drawn from the passage as a whole?

- a. **If placed in a new environment, an octopus would likely explore their surroundings and interact with any novel stimuli.**
- b. Octopuses are the most intelligent creatures on Earth.
- c. Octopuses are likely capable of and would enjoy playing catch with an aquarium worker.
- d. Octopuses only eat clams and mussels.

**If placed in a new environment, an octopus would likely explore their surroundings and interact with any novel stimuli.**

Based upon information from the entire passage, we can reasonably conclude this to be true. Evidence in the passage showed that octopuses are curious, playful, and engage with unknown objects.

**Octopuses are the most intelligent creatures on Earth.**

While the passage describes why octopuses are intelligent, and compares them to other intelligent animals (dolphins and elephants), not enough data or reasoning is provided for this conclusion to be made.

**Octopuses are likely capable of and would enjoy playing catch with an aquarium worker.**

While this is possible, it is not the BEST answer. The passage describes an octopus playing with a pill bottle, but there is no specific information about the interaction between octopuses and aquarium workers. Also, this is too specific of a conclusion to be drawn with the information in the passage. Answer choice A is a more logical, reasonable conclusion to be drawn.

**Octopuses only eat clams and mussels.**

While paragraph 2 describes octopuses eating clams and mussels, there is no evidence given or suggested that they are the entirety of octopuses' diet. This answer is incorrect.

### 3. Which of the statements from the passage best presents the topic of the passage?

- In 2010, a German octopus named Paul was even said to have correctly predicted the outcome of all seven of Germany's games during the South African World Cup.
- Octopuses remain a common animal for humans to keep and study in captivity. Their remarkable intelligence and display of complex behavior traits invites study and further consideration, at the very least.
- One of the best examples of the intelligence of octopuses is their ability to apply learned information and adjust to the most appropriate strategy when solving a problem.
- However, researchers have observed octopuses to be startlingly brilliant creatures.**

**However, researchers have observed octopuses to be startlingly brilliant creatures.**

This answer contains the main idea of the entire passage. The main idea is that octopuses are very intelligent creatures, and the rest of the passage contains details that illustrate this point. This particular sentence describes the main idea without including smaller details.

**In 2010, a German octopus named Paul was even said to have correctly predicted the outcome of all seven of Germany's games during the South African World Cup.**

This is incorrect. This sentence is a very specific detail showing one example of an intelligent octopus. It is incorrect because it does not highlight the main idea of the passage.

**Further evidence of the intelligence of octopuses can be found in their desire to play, a behavioral trait of exceptional animals.**

This is incorrect. This is the topic sentence in the third paragraph that describes another reason why octopuses are intelligent. It is incorrect because it is only about how octopuses enjoy playing, it does not include all of the reasons why octopuses are considered intelligent.

**Octopuses remain a common animal for humans to keep and study in captivity. Their remarkable intelligence and display of complex behavior traits invites study and further consideration, at the very least.**

This is incorrect. This is a good answer, but not the best. This section sums up the passage and provides further thought and consideration for the reader.

### 4. Which detail is irrelevant to the main idea?

- The octopuses chose which strategy to use based on which species they were presented with, and altered their approach to what would work best.
- Octopuses, of which the earth is home to about 300 distinct species, are cephalopods.**
- The animal repeated this behavior, similar to what a human might exhibit when bouncing a ball – exploring the options for engaging with a new stimulus.
- Octopuses have displayed curious behavior, such as pulling out loose tank valves, opening jars, and even escaping their tanks when no one was watching.

**Octopuses, of which the earth is home to about 300 distinct species, are cephalopods.**

This sentence in no way illustrates that octopuses are intelligent, which is the main idea of the article. While a true fact about octopuses, it does not contribute to or further the main idea in any way.

**The octopuses chose which strategy to use based on which species they were presented with, and altered their approach to what would work best.**

This is incorrect. This detail shows the decision-making skills of octopuses, which directly supports the main idea that octopuses are intelligent.

**The animal repeated this behavior, similar to what a human might exhibit when bouncing a ball – exploring the options for engaging with a new stimulus.**

This is incorrect. This detail compares the behavior of an octopus to that of a human – supporting the main idea that octopuses are brilliant creatures.

**Octopuses have displayed curious behavior, such as pulling out loose tank valves, opening jars, and even escaping their tanks when no one was watching.**

This is incorrect. This detail lists three ways octopuses display unique and complex behavior, supporting the idea that octopuses are intelligent.

**To: Residents of 207 North 7th Street  
From: LeasingNYC  
Date: March 15, 2022  
Subject: Water Heater Inspection**

Our yearly inspection of individual apartment water heaters will begin on Monday, March 21st. This yearly inspection required by NYC housing law will be conducted in each unit. Starting today, you will be able to log into your resident portal and schedule a time for a maintenance team member to inspect your water heater. This inspection should take no longer than 10 minutes. If you have been experiencing issues with your hot water, this is an excellent time to speak to maintenance and solve the problem.

Although we recommend that you are present for the inspection, you may also select a time when you will not be home. If this is the case, please be sure to select the box "I AUTHORIZE A MAINTENANCE TEAM MEMBER TO ENTER MY APARTMENT WITHOUT MY PRESENCE" when choosing a time and date. If your water heater closet has any items currently stored in it, these items will need to be removed before the inspection. Please note that, for safety reasons, LeasingNYC does not recommend that any personal items are stored within close proximity to the water heater.

The yearly inspection window will end on Friday, March 25th. If you have not selected a time on or before that day, a maintenance team member will come by your apartment for an inspection. If you are not at home or refuse entry, NYC housing will be notified. A representative from NYC housing will be able to enter your residence without your permission to complete the inspection, as required by law. As always, if you have any questions, please use the portal to connect with your LeasingNYC representative.

**5. How long is the window for residents of 207 North 7th Street to have water heater inspections conducted before the NYC housing authority is contacted?**

- a. The window is one day.
- b. The window is one month.
- c. The window is one week.**
- d. The window is unlimited.

**The window is one week.**

This answer is correct because the memo states that residents have from Monday, March 21st, until Friday, March 25th to have their water heaters inspected. This answer correctly describes the window as one week.

**The window is one day.**

**The window is one month.**

**The window is unlimited.**

These answers are incorrect because the memo states that residents have from Monday, March 21st, until Friday, March 25th – one week.

**6. What is the main idea of the passage?**

- a. Residents of 207 North 7th Street have been having issues with their water heaters.
- b. Maintenance team members of 207 North 7th Street and NYC housing representatives work together to ensure that all water heaters are inspected.
- c. Building management at 207 North 7th Street needs cooperation from residents to ensure that each unit's water heater is inspected.**
- d. Residents at 207 North 7th Street must use their portal to conduct all communication.

**Building management at 207 North 7th Street needs cooperation from residents to ensure that each unit's water heater is inspected.**

This is the best answer, and the main reason for the memo. The main idea of the memo is to inform residents of the yearly inspection and the necessary action they must take.

**Residents of 207 North 7th Street have been having issues with their water heaters.**

While it is mentioned that this is a possibility some residents have been facing in paragraph one, this is not what the memo is mainly about. This answer is incorrect.

**Maintenance team members of 207 North 7th Street and NYC housing representatives work together to ensure that all water heaters are inspected.**

This is true, and is an inference that can be made from the article. However, this is neither the purpose of the memo nor what the memo is mainly about, making this answer incorrect.

**Residents at 207 North 7th Street must use their portal to conduct all communication.**

This answer is incorrect. It is mentioned in the article that residents should use their portal to communicate, but it is not stated that the portal must exclusively be used. Additionally, this is not the main idea of the memo.

**7. Which of the following is a logical conclusion that can be drawn from paragraph two?**

- a. **Some residents have been storing personal items in their water heater closet.**
- b. Most residents do not want to authorize a maintenance team member to enter their apartments.
- c. Most residents will need to authorize a maintenance team member to enter their apartment while unoccupied.
- d. No residents store personal items in their water heater closet.

**Some residents have been storing personal items in their water heater closet.**

This answer is correct. Paragraph two states that any items currently being stored in the water heater closet will need to be moved, and that LeasingNYC recommends that no items be stored in this closet. Based upon this information being included in the memo, we can reasonably conclude that this has been an issue in the past.

**Most residents do not want to authorize a maintenance team member to enter their apartments.**

This answer is incorrect. There is no evidence in the paragraph to support that residents prefer a maintenance member not to enter their apartment.

**Most residents will need to authorize a maintenance team member to enter their apartment while unoccupied.**

There is no evidence to suggest that most residents will not be home and will therefore need a maintenance member to enter. The memo actually states the opposite and explains that if you do not authorize, "A representative from NYC housing will be able to enter your residence without your permission to complete the inspection, as required by law." This answer is incorrect.

**No residents store personal items in their water heater closet.**

This is the least likely logical conclusion. Based upon the information in paragraph two stating that items in the water heater closet both need to be moved and should not be stored in the closet, we can assume this has been occurring. This answer is incorrect.

**8. Which of the following is a supporting detail for the necessity of the water heater inspection?**

- a. If you have been experiencing issues with your hot water, this is an excellent time to speak to maintenance and solve the problem.
- b. If your water heater closet has any items currently stored in it, these items will need to be removed before the inspection.
- c. The yearly inspection window will end on Friday, March 25th.
- d. **This yearly inspection required by NYC housing law will be conducted in each unit.**

**This yearly inspection required by NYC housing law will be conducted in each unit.**

This answer is correct because it provides further detail and explains the necessity of the main idea – the mandated water heater inspections.

**If you have been experiencing issues with your hot water, this is an excellent time to speak to maintenance and solve the problem.**

This answer is incorrect because it does not support the main idea that ALL water heaters must be inspected, regardless of functionality.

**If your water heater closet has any items currently stored in it, these items will need to be removed before the inspection.**

This detail does not contribute to WHY the water heaters are being inspected, therefore it is incorrect.

**The yearly inspection window will end on Friday, March 25th.**

This detail does not contribute to WHY the water heaters are being inspected, therefore it is incorrect.

### Why Daylight Saving Time?

During World War I, several European countries initiated daylight saving time as a wartime practice to conserve the fuel used by electricity for indoor lighting. It was adopted by the United States shortly afterward, but abandoned due to unpopularity following the end of the war. Reinstated by FDR during World War II, it was rendered optional afterward. Use continued to be optional and therefore created highly irregular and confusing schedules for transportation, radio, and TV throughout the 1960s.

President Johnson ended the confusion in 1966 by signing The Uniform Time Act. However, any state wishing to do so was able to opt out of Daylight Saving Time observance by passing a state law. Today, only Arizona and Hawaii do not observe. Daylight Saving Time is celebrated in the fall by those wishing to gain an hour of sleep, and those in the spring invigorated by the longer days. Unfortunately, children often struggle to adjust to these changes to their schedule, especially where sleep and waking times are concerned. This is particularly irritating for parents. Regardless of your preference for Daylight Saving Time, it seems poised to persist in the United States, temporarily disrupting our schedules twice a year.

#### 9. Which of the following is a fact from the text? Select all that apply.

- a. This is particularly irritating for parents.
- b. Regardless of your preference for Daylight Saving Time, it seems poised to persist in the United States and temporarily disrupt our schedules twice a year.
- c. **During World War I, several European countries initiated daylight saving time as a wartime practice to conserve the fuel used by electricity for indoor lighting.**
- d. Daylight Saving Time is only observed in the United States.
- e. **Reinstated by FDR during World War II, it was rendered optional afterward.**

**During World War 1, several European countries initiated daylight saving time as a wartime practice to conserve the fuel used by electricity for indoor lighting.**

**Reinstated by FDR during World War II, it was rendered optional afterward.**

These sentences are all facts from the passage, they can be verified by research. This answer is correct.

**This is particularly irritating for parents.**

This statement is an opinion, and cannot be proven true for all children, making this answer incorrect.

**Regardless of your preference for Daylight Saving Time, it seems poised to persist in the United States, temporarily disrupting our schedules twice a year.**

This is not an explicit fact. This word "seems" signals a prediction, not a fact, therefore this answer option is incorrect.

**Daylight Saving Time is only observed in the United States.**

This sentence is incorrect because it is neither in the passage nor a true fact.

#### 10. Which of the following statements from the passage expresses an opinion?

- a. **Unfortunately, children often struggle to adjust to these changes to their schedule, especially where sleep and waking times are concerned.**
- b. It was adopted by the United States shortly afterward, but abandoned due to unpopularity following the end of the war.
- c. President Johnson ended the confusion in 1966 by signing The Uniform Time Act.
- d. Today, only Arizona and Hawaii do not observe.

**Unfortunately, children often struggle to adjust to these changes to their schedule, especially where sleep and waking times are concerned.**

This statement is an opinion, as not all children are likely to struggle and this cannot be proven. This answer is correct.

**It was adopted by the United States shortly afterward, but abandoned due to unpopularity following the end of the war.**

This statement is a fact that can be proven, and therefore is incorrect.

**President Johnson ended the confusion in 1966 by signing The Uniform Time Act.**

This statement is a fact that can be proven, and therefore is incorrect.

**Today, only Arizona and Hawaii do not observe.**

This statement is a fact that can be proven, and therefore is incorrect.

Planning a dinner party can be stressful and time-consuming, but is ultimately worth it when you find yourself surrounded by great friends and delicious food! The first step is to create a guest list (being cognizant of food allergies, restrictions, and preferences) and then select a date and invite your guests. After that, you're able to plan a menu, solicit any help needed, and choose decor if you desire!



**11. Which event comes last in the sequence?**

- a. Choosing the decor
- b. Creating a guest list
- c. Enjoying the dinner party**
- d. Making a list of food allergies

**Enjoying the dinner party**

This answer is correct. Although listed first in the paragraph, this is the last step in having a dinner party. One clue is the use of the word “ultimately” when describing this step.

**Choosing the decor**

This answer is incorrect, as this step must be taken before enjoying the dinner party.

**Creating a guest list**

This answer is incorrect, as this is one of the first steps, as stated directly in the passage.

**Making a list of food allergies**

This answer is incorrect, as this is one of the first steps, as stated directly in the passage.

**12. 4556928816**

Using the number string above, replace every 5 with the letter G, every 6 with the letter R, every 9 with the letter D, every 2 with the letter W, every 1 with the letter L, or consonants that appear more than once in a row, keep only the first instance of those letters. Change the multiples of 4 to A.

- a. AGGRDWAAL
- b. AGRDWAALR**
- c. AGRDWAL
- d. AGGRDWAALR

**AGRDWAALR**

This is the correct answer since it follows all the given directions correctly. Pay close attention to the “for consonants that appear more than once, keep only the first instance of those letters” to cancel out the second G.

**AGGRDWAAL**

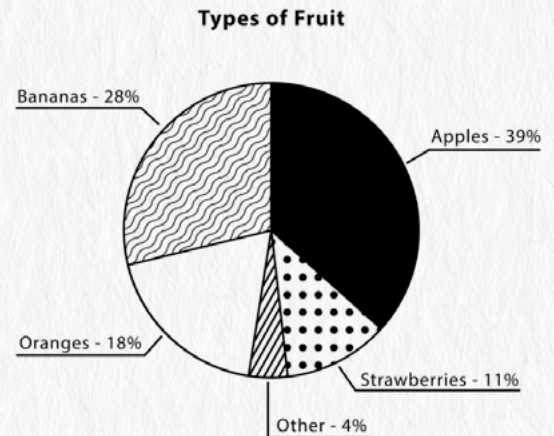
This is incorrect because further instances of the consonant, i.e. G, have not been deleted and the “R” at the end of the string is missing.

**AGRDWAL**

This is incorrect because the prompt only says to “keep only” the first instance of consonants, not vowels, so only the second G should be deleted, not the second A.

**AGGRDWAALR**

This is incorrect because the consonants after the first instance are not deleted.

**13.**

A study was conducted among college freshmen concerning favorite fruits and test scores. Students were asked their favorite fruit and given their selection as a snack directly before an exam. Evidence has shown that individuals who consume higher amounts of berries and citrus fruits are more likely to score higher on an exam than those that consume fruits such as bananas and apples. This could be due to the research surrounding berries as high powered ‘brain food’, and the instances of starchy fruits inducing sleepiness.

**The pie chart shows the percentage of fruits preferred by college freshmen at Trinity Community College. Which of the following statements is true based on the pie chart and explanation?**

- a. Around 30% of the students are expected to score higher on the exam than the other 70%.**
- b. Around 70% of the students are expected to score higher on the exam than the other 30%.
- c. More students chose citrus and berries as their favorite fruit, likely in an effort to score higher on their exams.
- d. Apples are the most highly preferred fruit and therefore those students who selected apples will score the highest.

**Around 30% of the students are expected to score higher on the exam than the other 70%.**

This answer is correct. According to the explanation, students who consume citrus and berries are more likely to score higher on exams. 18% of students selected oranges and 11% selected strawberries, which combined totals 29%, or about 30% of students would be expected to score higher on their exams.

**Around 70% of the students are expected to score higher on the exam than the other 30%.**

This answer is incorrect. According to the explanation, students who consume starchy fruits such as bananas and apples are more likely to score lower than their counterparts who selected oranges or strawberries. About 30% of students selected oranges and strawberries, and about 70% selected apples, bananas, and 'other'.

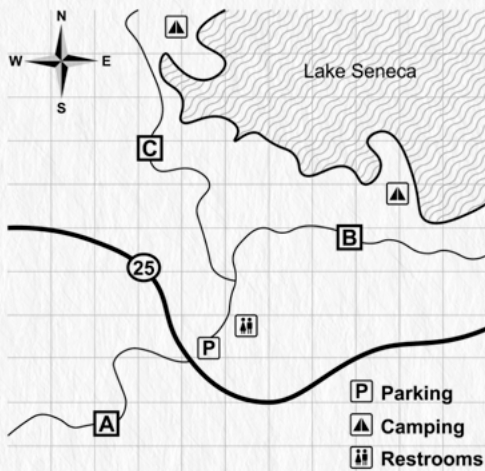
**More students chose citrus and berries as their favorite fruit, likely in an effort to score higher on their exams.**

This answer is incorrect. Fewer students selected citrus and berries as their favorite fruits than the other choices, and additionally, there is no context given to suggest that the students made their selection with the information regarding test scores.

**Apples are the most highly preferred fruit and therefore those students who selected apples will score the highest.**

This answer is incorrect. While apples are the most preferred fruit, the evidence suggests these students will score lower than the students who selected oranges or strawberries.

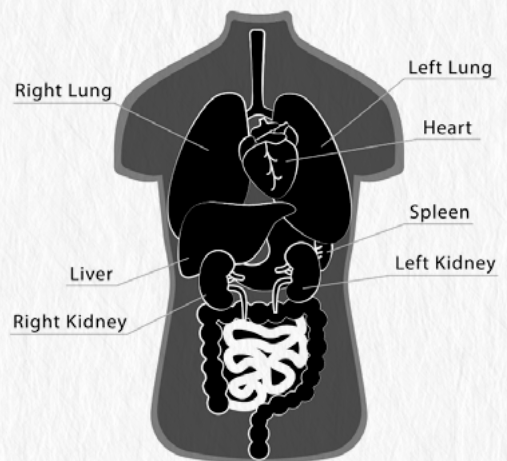
14.



**Which of the following statements is accurate based on the map?**

- a. Lake Seneca is the northernmost feature on the map.
- b. There is only one designated camping spot near Lake Seneca.
- c. **Parking is located near the restrooms.**
- d. The restrooms and parking are located east of Lake Seneca.

15.



**Which of the following can be concluded by referencing the illustration?**

- a. The kidneys are the uppermost organs in the body.
- b. **The right and left lung mirror each other in placement.**
- c. The liver is below the left lung.
- d. The heart is directly above the spleen.

**The right and left lung mirror each other in placement.**

This answer is correct. According to the graphic, the right and left lungs are mirror images of each other because they are next to one another.

**The kidneys are the uppermost organs in the body.**

This answer is incorrect. Using the graphic, the kidneys are clearly located lower in the body, below all of the other labeled organs.

**The liver is below the left lung.**

This answer is incorrect. It would be more accurate to say the liver is below the right lung.

**The heart is directly above the spleen.**

This answer is incorrect. While the heart is above the spleen, according to this graphic it would be more accurate to say the heart is directly above the liver. This is not the best answer.

### Strategies for Sleeplessness

Sleep. Elusive for many of us, the majority likely agree that we aren't getting enough. The stress and unpredictability of the past two years while living through a pandemic have exacerbated sleep issues for many. According to some studies, as many as 30-50% of adults suffer from some type of insomnia. Fortunately, scientists and sleep specialists have identified simple practice steps for better, more fulfilling sleep. Many of the suggested steps are a return to the very basics of sleep hygiene.

First, consider the environment you create for rest. A bedroom should resemble a cave – dark, silent, and cool. Wearing an eye mask or using blackout shades shuts out unwanted light. If you live in a noisy urban environment, try a white noise machine. The ideal sleeping temperature might be chillier than you think – experts suggest between 60-67 degrees Fahrenheit.

Additionally, creating a bedtime routine is just as crucial for adults as it is for children. Following a prescribed set of steps each evening shows the body it is time for sleep. For most, this should include turning off technology (social media, television, your laptop) at least an hour before bedtime, and instead reading a book or listening to a calming podcast or music. Going to bed too full or too hungry can also interfere with a good night's rest – have a snack if you need to, but make sure you aren't eating dinner just before bedtime.

Exercise is crucial to our overall wellness, and that translates into our sleeping lives at night. While many of us have formed a complex relationship with exercise over the pandemic, experts continue to say it is vital for restorative sleep; but not too close to bedtime. Finish your workout several hours before bed to allow your body temperature to begin to decline and regulate.

Finally, many of us lay awake at night with our worries. Sleep scientists suggest maintaining a notebook next to your bed to quickly scribble down those worries as they pop into our heads (Did I sign the permission slip? Respond to that email?). Removing them from our thoughts frees up our consciousness for rest. Set aside a time each day to read over these notes. Although the pandemic and stressors of everyday life have made sleep a fleeting experience for many, better rest IS achievable with a few simple tweaks to your habits.

### 16. What is the structure of the passage?

- a. Descriptive
- b. Sequence
- c. Cause-effect
- d. Problem-solution**

#### Problem-solution

This answer is correct. The passage describes the problem of lack of sleep and provides several solutions to sleep better.

#### Descriptive

This answer is incorrect. Although this passage describes problems and solutions regarding sleep, this is not the best answer. The structure is problem-solution.

#### Sequence

This answer is incorrect. The passage is not a step-by-step process or describing something in order.

#### Cause-effect

This answer is incorrect. While the passage briefly addresses the pandemic as a possible source of sleeplessness, that is not the primary goal of the passage.

### 17. What of the following characterizes the author's perspective about the topic of the passage?

- a. Ambivalent
- b. Empathetic**
- c. Concerned
- d. Sentimental

#### Empathetic

This answer is correct. The author has an empathetic perspective about the potential difficulties of obtaining good sleep. The author includes phrases such as "elusive for many of us" and "many of us lay awake at night". This shows the reader that the author has an empathetic perspective, or the ability to understand and share in the feelings of not getting enough sleep.

#### Ambivalent

This answer is incorrect. In general, the author is able to understand and share in the potential difficulties of obtaining good sleep, showing that the correct perspective is "empathetic". Being "ambivalent" would be the opposite of the author's perspective, since the meaning of the word is "having mixed feelings or contradictory ideas about something".

**Concerned**

This answer is incorrect. The author does not have a concerned perspective about the difficulties of getting a good night's rest. Although the author is aware of the problem, they show a more empathetic perspective rather than expressing concern about the topic. The fact that the author includes phrases such as "elusive for many of us" and "many of us lay awake at night" shows that they are able to empathize with people going through the same situation.

**Sentimental**

This answer is incorrect. The author's perspective is not sentimental, since there is not a strong emotional connection to the difficulties associated with sleeping well. For instance, the author does not include an emotional story associated with the topic, but rather, describes the issues with an empathetic tone while providing a few potential solutions.

**18. Which of the following is an antonym for the word "exacerbated" as used in the first paragraph? Select all that apply.**

- a. **Alleviated**
- b. Aggravated
- c. Created
- d. **Diminished**
- e. Enjoyed

**Alleviated and Diminished**

These answer choices are correct. In the text, we can infer that "exacerbated" means to worsen, as the author describes the pandemic and stress as exacerbating sleep issues. Therefore, alleviating and diminishing, or making better/lessening, is the opposite of the word exacerbate.

**Aggravated**

This answer choice is incorrect. In the text, we can infer that "exacerbated" means to worsen, as the author describes the pandemic and stress as exacerbating sleep issues. Therefore, aggravating, or making worse, has the same meaning as the word exacerbate.

**Created**

This answer choice is incorrect. According to the text, sleep issues were not created by the pandemic. In the first paragraph, the author highlights a key data point that explains that 30–50% of Americans already struggle with sleep.

**Enjoyed**

This answer choice is incorrect. The antonym of the word enjoyed is disliked, and it does not make sense that the pandemic and stress have caused many to "dislike" sleep issues.

**Strategies for Sleeplessness**

An alarming uptick in colorectal cancer has affected mostly younger adults. Over the past thirty to fifty years, the rates in people younger than 50 have been steadily on the rise, resulting in those born in the year 1990 having double the risk of colon cancer and quadruple the risk of rectal cancer compared to those born in the year 1950<sup>1</sup>. The reason for this trend is mostly unknown, although some researchers point to obesity, sedentary lifestyles, and poor eating habits as likely culprits.

<sup>1</sup> According to 2021 data pulled from the ACS (American Cancer Society).

**19. What is the purpose of the footnote in this excerpt?**

- a. **To reveal the source of the author's information**
- b. To place a spotlight on the American Cancer Society
- c. To show the recency of the data
- d. To help the reader better understand the passage

**To reveal the source of the author's information**

This answer is correct. The author is using the footnote to cite the data used in the paragraph.

**To place a spotlight on the American Cancer Society**

This answer is incorrect because the paragraph is not mainly about the American Cancer Society, and the author is using the footnote to cite their source, not highlight the ACS.

**To show the recency of the data**

While the data is recent, this answer is incorrect because the primary purpose of the footnote is for the author to cite their data, not show the recency.

**To help the reader better understand the passage**

This answer is incorrect because citing the source of the information does not give the reader more details or a further understanding of the paragraph.

### Yellow Cake Bar Blondies

These delectable bars are easy to make, use commonly found ingredients, and are perfect for any occasion! You can even add frosting on top for an extra special treat.

#### Ingredients:

- 1 box of yellow cake mix
  - 5 tablespoons of butter, melted
  - 2 eggs
  - Chocolate chips
  - 1 teaspoon vanilla extract
1. Preheat the oven to 350 degrees Fahrenheit and grease a 9"x13" pan.
  2. Beat 2 eggs until fluffy.
  3. Stir in yellow cake mix and vanilla.
  4. Melt butter and wait until somewhat cool before adding. (If too hot, the butter will cook eggs)
  5. Stir in chocolate chips and pour the mixture into a pan.
  6. Bake at 350 for 20 minutes or until a fork placed in the center comes out clean.

20. Which of the following is the source of this passage?

- a. YA novel
- b. An oven manual
- c. **A food and beverage magazine**
- d. Entertainment magazine

#### A food and beverage magazine

This passage is a recipe, so it is logical to assume that it comes from a food and beverage magazine. This answer is correct.

#### YA Novel

This answer is incorrect because this is a recipe, not a paragraph of fiction originating in a novel.

#### An oven manual

The passage is a recipe, therefore it is more likely to be from a food and beverage magazine than a manual. This answer is incorrect.

#### Entertainment magazine

This answer is incorrect because the passage is a recipe, therefore it is less likely to be from an entertainment magazine. The better answer is "a food and beverage magazine."

21. These delectable bars are easy to make, use commonly found ingredients, and are perfect for any occasion!

Which of the following is the closest meaning to "delectable" in the sentence above?

- a. Complicated
- b. **Delicious**
- c. Ideal
- d. Understated

#### Delicious

This answer is correct. The author believes this dessert is very tasty, and recipes are usually included in dessert cookbooks because they are good to eat!

#### Complicated

This answer is incorrect because there is no evidence to support that this dessert is complicated to make. In the same sentence, these bars are described as being "easy to make".

#### Ideal

This answer is tricky. The bars are listed as "perfect for any occasion", but "delicious" is a better answer and closer to the meaning of the word "delectable".

#### Understated

There is no evidence to suggest that delectable means "under the radar", or understated. This answer is incorrect.

22. What is the purpose of the last sentence of the introductory paragraph?

- a. **To tell the reader how to finish the dessert**
- b. To tell the reader what ingredients they will need
- c. To tell the reader what to do with the butter
- d. To tell the reader who would enjoy this recipe

#### To tell the reader how to finish the dessert

This answer is correct because the last sentence of the introduction to this recipe explains that adding frosting on top (of the baked bar) can finish it.

#### To tell the reader what ingredients they will need

This answer is incorrect because the list of ingredients needed is at the top of the passage/recipe, not the introduction.

#### To tell the reader what to do with the butter

This answer is incorrect because it is described in step 4 of the recipe, not the introduction.

#### To tell the reader who would enjoy this recipe

Although the introduction says "you can add...", this does not highlight who will enjoy this recipe.

**The Dewey Decimal Classes:**

- 000 Computer science, information, and general works
- 100 Philosophy and psychology
- 200 Religion
- 300 Social sciences
- 400 Languages
- 500 Science and mathematics
- 600 Technical and applied science
- 700 Arts and recreation
- 800 Literature
- 900 History, geography, and biography

**23. While researching ancient India, Jasmine became interested in the origins of Buddhism. To which section of the library should she go to read more about Buddhism?**

- a. 200
- b. 400
- c. 800
- d. 900

**200**

Buddhism is a world religion, therefore Jasmine should go to the Religion Section to learn more. This answer is correct.

**400** is incorrect.

Buddhism is not a language, Jasmine is unlikely to find information about a religion in the Language Section.

**800** is incorrect.

The Literature section contains fiction and is not the correct place to look for information about religion.

**900** is incorrect.

Although Jasmine is studying the history of ancient India, looking in the Religion section for information about Buddhism is a better answer than the History, geography, and biography section.

**24. A music student is studying examples of early 21st-century pop musicians. Which of the following is a primary source that the student could use for this topic?**

- a. A biography about early 21st-century pop musicians
- b. An art museum exhibition of costumes worn by early 21st-century pop musicians
- c. **An album of music by an early 21st-century pop musician**
- d. An album of music by an early 21st-century pop musician released before the year 2000

**An album of music by an early 21st-century pop musician.**

This is correct because the music created by one of these artists is a primary source. It is precisely what the student is studying.

**A biography about early 21st-century pop musicians is incorrect.**

A biography of the subject is considered a secondary source.

**An art museum exhibition of costumes worn by early 21st-century pop musicians is incorrect.**

This is not an example of the actual music created by the artist, but rather something related to the music. It is not a primary source.

**An album of music by an early 21st-century pop musician released before the year 2000 is incorrect.**

While an example of the artist's music, the student is specifically studying early 21st-century pop music, therefore the music must have been created in the early 21st century, or after the year 2000.

### Pets for Seniors

With a nationally aging population, nursing homes and assisted living facilities are a necessity throughout the United States. While these places have a multitude of negative and positive connotations, one thing is clear. Giving seniors the responsibility of a pet improves their happiness, life expectancy, and overall well-being. Faced with long monotonous days, the excitement and dependency of a pet gives seniors something to be in charge of and invigorated by. Studies have shown the ownership and responsibility of a cat, dog, hamster, or even a fish, have dramatically improved the outlook of seniors. Pets encourage daily exercises, such as walking, and socialization between residents and their respective animals. Residents of nursing homes and assisted living facilities have reported that owning a pet fosters joy and love, and reduces stress and boredom.

**25. What is the primary argument of the passage?**

- a. A cat or dog is a better pet than a fish.
- b. The number of seniors in the United States is a fast-growing national issue.
- c. Seniors are unhappy.
- d. **Owning a pet improves the lives of seniors in nursing homes.**

**Owning a pet improves the lives of seniors in nursing homes.**

This answer is correct. The author's primary argument is that the responsibility of a pet leads to happier, more fulfilled seniors.

**A cat or dog is a better pet than a fish.**

This is incorrect because there is no evidence to support this argument. In fact, the author states that a cat, dog, or fish provide benefits to seniors.

**The number of seniors in the United States is a fast-growing national issue.**

While the author states the number of seniors in the US is increasing, they neither state that it is an issue nor is this a primary argument. This answer is incorrect.

**Seniors are unhappy.**

This is implied in the passage’s focus on pets improving the happiness of seniors, and is an inference the reader could make, but is not the author’s primary argument. This answer is incorrect.

**Make Cooking Fun!**

Hey there, work from home warriors! Cooking is a tedious and unfortunately, daily task, made even more so by the onset of a recent global pandemic. However, with the advent of subscription cooking boxes, this chore can become easier and more enjoyable! Delivered to your door with all of the ingredients and instructions to make a meal, these services take the guesswork out of grocery shopping and selecting which meals to make. You can choose the number of weekly meals you would like to receive, and enter preferences for dietary restrictions around meat and dairy. Some subscription services even offer the option of pre-cut ingredients. Take the hassle out of grocery shopping and cooking, and sign up for meal boxes today!

Remember, a stereotype is a fixed, widely held belief about a particular group of people or things. However, these beliefs are over-generalized. When we stereotype someone or something, we are drawing the conclusion that this person or thing possesses an entire range of characteristics we assume all members of that group have.

**Take the hassle out of grocery shopping and cooking, and sign up for meal boxes today!**

This is incorrect because it is not a stereotype, but rather a plug for why the reader should use a cooking subscription box.

**However, with the advent of subscription cooking boxes, this chore can become easier and more enjoyable!**

This is incorrect because it is not a generalization, or stereotype, but rather a solution the author is providing to a perceived problem.

**You can choose the number of weekly meals you would like to receive, and enter preferences for dietary restrictions around meat and dairy.**

This is incorrect because it is not a stereotype, but a detail describing more information about cooking subscription boxes.

**26. Which of the following statements from the passage indicates a stereotype?**

- a. Take the hassle out of grocery shopping and cooking, and sign up for meal boxes today!
- b. Cooking is a tedious and unfortunately, daily task, made even more so by the onset of a recent global pandemic.**
- c. However, with the advent of subscription cooking boxes, this chore can become easier and more enjoyable!
- d. You can choose the number of weekly meals you would like to receive, and enter preferences for dietary restrictions around meat and dairy.

**Cooking is a tedious and unfortunately, daily task, made even more so by the onset of a recent global pandemic.**

This answer is correct. The author is generalizing and therefore stereotyping that ALL people who now work from home dislike cooking and consider it a chore, while some people may enjoy cooking.

Pose and make it perfect	Twitter, fast-paced, informative.
Let them see you	A source of pure entertainment.
As you want to be seen	A fountain of rally cries.
Stay on top of it. All of it.	A necessary evil.
If you’re not thinking about this,	Get the word out, so they can never look away.
You should be.	But does it do more harm than good?
Share, then forget.	Use with caution or you might be burned.

**27. Which of the following is the theme of the poem?**

- a. Everybody lies.
- b. News is most trustworthy in print.
- c. Be careful whom you trust.**
- d. Of all social media, Twitter is best.

**Be careful whom you trust.**

This answer is correct. The poem has several moments that tell the reader things are not as they seem. There is a negative, distrusting mood in each stanza "Let them see you as you want to be seen" and "Use with caution or you might be burned." Of the four, this is the best answer.

**Everybody lies.**

This answer is incorrect. The writer does not see everybody on social media as dishonest. They call it "a fountain of rally cries" and a place to "get the word out". There is no indication that everybody is a liar.

**News is most trustworthy in print.**

This answer is incorrect. The poet never mentions print news as better or more trustworthy. This is an opinion the reader could draw, but not the theme of the poem.

**Of all social media, Twitter is best.**

This answer is too specific to be a theme. The poet mentions social media broadly. Although it mentions twitter by name, there is no indication they believe it is best.

**28. Which of the following has a contrasting theme to that of the poem?**

- a. A story about a man who lovingly lent money to his brother.
- b. A song by someone warning the other of a cheating partner.
- c. A movie that tells a cautionary tale about friendship, family, and trust.
- d. **A magazine article about a man who donates to every GoFundMe he sees.**

**A magazine article about a man who donates to every GoFundMe he sees.**

This is correct. This article describes a man with blind faith in people online. The trust that would be required to be this generous is in direct opposition to the poem's warnings about how people represent themselves on social media.

**A story about a man who lovingly lent money to his brother.**

This is the next best answer. However, the story of two brothers "lovingly" exchanging money implies some trust and familiarity.

**A song by someone warning the other of a cheating partner.**

This song would echo the "be careful whom you trust" sentiment. The question asks for which theme would contrast. This answer is incorrect.

**A movie that tells a cautionary tale about friendship, family, and trust.**

The words "cautionary tale" suggest that the viewer is meant to be careful in relationships. It is similar to the poem. This answer is incorrect.

**Binge Drinking and Experimental Drug Use in College Students**

All college students are exposed to unprecedented levels of binge drinking and illicit drug use. Early on, they are tempted to engage in these risky behaviors. Distracting from their studies and contributing to declining mental health, drug and alcohol use is inherently a major problem across college campuses in the United States. One study from the American Addiction Centers found that almost half of all college students nationally displayed symptoms of at least one substance abuse disorder. A 2019 Monitoring the Future Survey discovered the highest instances of the use of marijuana, cocaine, hallucinogens, and MDMA to be among college-aged young adults.

Why are college students so likely to engage in binge drinking and drug use? The answer may lie in turmoil experienced while adapting to a major life change and living in new circumstances. Many college students travel a great distance to their colleges, and live without their families, in particular older, more responsible adults, for the first time. A desire to experiment is a natural inclination, as is the pressure to fit in and assimilate with new peers. College students are also bridled with the double pressure of deadlines, challenging classes, and the novel responsibility to handle it all on their own. Many, unwisely, turn to the temporary escape offered by drugs and alcohol.

**29. Which of the following is a logical conclusion that could be made about the experience of college students?**

- a. Most college students are able to resist the lure of drugs and alcohol.
- b. College students that engage in risky behavior will perform lower academically.
- c. **College students engage with drugs and alcohol as it is more readily available.**
- d. College students that engage in risky behavior will ultimately suffer from mental health issues.

**College students engage with drugs and alcohol as it is more readily available.**

This answer is correct. We can reasonably infer that students are able to engage with drugs and alcohol at a high rate because it is available for use.



**Most college students are able to resist the lure of drugs and alcohol.**

This answer is incorrect because there is no evidence in the passage to support this statement. The passage focuses on the negative aspects of drug and alcohol use that is very common on college campuses. The article states that nearly half of college students show signs of substance abuse.

**College students that engage in risky behavior will perform lower academically.**

This answer is incorrect because while this may be true, there is no evidence in the text to support this conclusion.

**College students that engage in risky behavior will ultimately suffer from mental health issues.**

This answer is incorrect because while this may be true for some, there is no mention of mental health in the passage, therefore we cannot make this inference.

**A desire to experiment is a natural inclination, as is the pressure to fit in and assimilate with new peers.**

This answer is incorrect because it is not stereotyping a specific group of people, but suggesting an experience a group of people MIGHT share.

**One study from the American Addiction Centers found that almost half of all college students nationally displayed symptoms of at least one substance abuse disorder.**

This answer is incorrect because this is a piece of data, a fact from a scientific survey, not a stereotype.

**Many college students travel a great distance to their college, and live without their families, in particular older, more responsible adults, for the first time.**

This answer is incorrect. The keyword here is “many” college students – this answer is suggesting that many college students will travel far to their respective colleges, but not claiming that ALL do so.

**30. Which of the following statements from the passage indicates a stereotype?**

- A desire to experiment is a natural inclination, as is the pressure to fit in and assimilate with new peers.
- All college students are exposed to unprecedented levels of binge drinking and illicit drug use and are tempted to engage in these risky behaviors.**
- One study from the American Addiction Centers found that almost half of all college students nationally displayed symptoms of at least one substance abuse disorder.
- Many college students travel a great distance to their college, and live without their families, in particular older, more responsible adults, for the first time.

**All college students are exposed to unprecedented levels of binge drinking and illicit drug use and are tempted to engage in these risky behaviors.**

This answer is correct because it is suggesting that EVERY college student must confront drugs and alcohol, while we cannot prove this is an experience that ALL college students will be tempted.

Remember, a stereotype is a fixed, widely held belief about a particular group of people or things. However, these beliefs are over-generalized. When we stereotype someone or something, we are drawing the conclusion that this person or thing possesses an entire range of characteristics we assume all members of that group have.

**Learning From Blue Zones**

Identified by Dan Buettner in 2004, the five original Blue Zones are communities found throughout the world where people are found to live the longest and healthiest lives. These Blue Zones are Sardinia, Italy; Okinawa, Japan; Ikaria, Greece; Nicoya, Costa Rica; and Loma Linda, California. Globally, we all want to live longer, healthier lives. These five communities provide us with excellent case studies and strategies to achieve this universal goal. Focused on fitness, eating habits, and overall mindset, all Blue Zones share several common practices that contribute to a long, well-lived life.

Although the five Blue Zones are found in very different cultures, the norm in each is a plant-based diet. Members of these communities eat little meat, with importance on beans. Other tenets of the diet include whole grains, tubers, greens, and nuts. Experts say any beans will provide benefits but should mix up the type when possible. Further, residents of Blue Zones eat small amounts of dairy, including eggs. The drinking habits of these five groups place an emphasis on water and tea, consumed throughout the day, and no more than two glasses of (red) wine daily.

Frequent walking is a central component of life in Blue Zones. Three of the five, Okinawa, Sardinia, and Ikaria, are located in hilly geographic regions with narrow roads. Walking is a necessary part of daily tasks, and often leads to sociable interaction. These communities are full of people who form close bonds through their daily activities. Humans are sociable creatures, and these relationships contribute to an overall sense of well-being and a positive outlook on life.

The five Blue Zones illustrate easy to implement ways to improve our lives and increase our chances of longevity, a unanimously held goal. Further study will only provide more insight into the lessons to be gleaned from the places where people live the longest and are happiest.

**31. Which of the following is an inference that could be made about the smoking habits of people living in Blue Zones?**

- Blue Zone residents are likely avid smokers.
- Blue Zone residents may be smokers, but their healthy diets outweigh the negative effects of smoking.
- Blue Zone residents are not likely to be smokers.**
- Blue Zone residents may be smokers, but they prefer vaping over traditional cigarettes.

**Blue Zone residents are not likely to be smokers.**

This answer is correct. Paired with the information that Blue Zone communities are home to the longest living people on Earth, and the common knowledge that smoking has severely negative health effects, the reader can reasonably infer that most Blue Zone residents are likely not smokers.

**Blue Zone residents are likely avid smokers.**

This answer is incorrect. Paired with the information that Blue Zone communities are home to the longest living people on Earth, and the common knowledge that smoking has severely negative health effects, the reader can reasonably infer that most Blue Zone residents are likely not smokers.

**Blue Zone residents may be smokers, but their healthy diets outweigh the negative effects of smoking.**

This answer is incorrect. Although it is stated that Blue Zone residents eat healthy diets, we would need more evidence to conclude these healthy diets outweigh the effects of smoking.

**Blue Zone residents may be smokers, but they prefer vaping over traditional cigarettes.**

This answer is incorrect. The article never discusses vaping as a healthy alternative. It is now widely believed that both are dangerous. Blue Zone residents are unlikely to partake in either activity.

**32. What is a claim that the author makes in the passage?**

- Okinawa, Sardinia, and Ikaria are the most important Blue Zones.
- Eating a plant-based diet is crucial to health.
- We have much to learn from the five Blue Zones.**
- While interesting to study, the standards of Blue Zones are unattainable.

**We have much to learn from the five Blue Zones.**

This answer is correct. The author is arguing the five Blue Zones provide important lessons for everyone that can be incorporated into their daily lives.

**Eating a plant-based diet is crucial to health.**

This is an important argument made by the author, but there is a better answer. The author's primary argument is broader, that we have MANY lessons to be learned from Blue Zones. This answer is incorrect.

**Okinawa, Sardinia, and Ikaria are the most important Blue Zones.**

The author gives an example of what makes these communities unique, but is not primarily arguing that they are better than the other two. This answer is incorrect.

**While interesting to study, the standards of Blue Zones are unattainable.**

This answer is incorrect. The author's primary argument is that we have MUCH to learn and implement from the lifestyles of the five Blue Zones.

**Rising Sea Levels**

Coastal communities, often the most desirable places to live, face numerous risks from climate change. While rising sea levels contribute to flooding, they can also threaten the quality of drinking water. These floods bring salinized water inland, damaging water purification systems and harming the drinking water of local populations. Vulnerable members of a community, such as pregnant people or people with hypertension, are at an increased risk from drinking salinized water. Solutions exist and include specialized systems in desalination plants, sea walls, and dikes, however many of these water utilities are already budget strained and lack the funds and resources necessary to keep up with the increasing demand of climate change. Experts suggest the implementation of "smart water systems", or a network of advanced sensors that would raise the alarm when an unhealthy level of salinity was reached, and then a contingency plan that includes a backup water source when necessary. Although a potentially costly solution, flooding in coastal communities is a nuisance unlikely to improve in the near future.

**33. Which of the following is an inference that could be made about the effects of climate change?**

- a. Salinity in water from coastal flooding is only harmful to those with compromised immune systems.
- b. Coastal flooding issues can be solved with a desalinization system.
- c. Coastal flooding is not likely to improve in the near future.**
- d. Coastal water purification systems are already unsafe.

**Coastal flooding is not likely to improve in the near future.**

This answer is correct. Evidence from the passage combined with general knowledge about climate change can lead us to reasonably infer that coastal flooding is likely to worsen, rather than improve.

**Salinity in water from coastal flooding is only harmful to those with compromised immune systems.**

While the passage states that water salinity levels are more dangerous for pregnant people and those with hypertension, this is not enough evidence for us to conclude that it is harmless for others. This answer is incorrect.

**Coastal flooding issues can be solved with a desalinization system.**

This answer is incorrect. The article states that salinized water is one of the issues from flooding. The system would also only help after flooding damage, not stop floods, which would reasonably affect more than just drinking water for citizens.

**Coastal water purification systems are already unsafe.**

This answer is incorrect. While the passage states that coastal water purification systems may be underfunded, this is not enough evidence for us to infer that they are currently dangerous.

**Why Breakfast Matters**

We've all heard that breakfast is the most important meal of the day. However, what you choose to ingest is just as important. Beginning your day with a low sugar and hearty meal rooted around vegetables will provide you with energy and jump-start your metabolism. Good for you fats, from foods such as avocados or eggs are always a good idea, as are whole grains in the form of toast or oatmeal. Protein is vital and can be found in nuts, nut butters, and lean meats. Be careful with smoothies and yogurts, as these breakfast items are often hiding high amounts of sugar. However, it is noteworthy that some nutritionists suggest that if you must consume sweets, the best time to do it is first thing in the morning, giving your body the whole day to burn it off.

If you're looking to improve your overall well-being, try starting each day with a protein-packed, vegetable and grain-based breakfast.

**34. Which of the following is a counterargument in the passage?**

- a. Smoothies and yogurts are excellent breakfast options.
- b. Low sugar breakfasts are best for a healthy lifestyle.
- c. Some nutritionists suggest consuming sugar first thing in the morning.**
- d. Protein is the most important component of breakfast.

**Some nutritionists suggest consuming sugar first thing in the morning.**

This answer is correct. The author is arguing that eating breakfast low in sugar is best for overall health, and this statement counters that argument by suggesting that some in the health food industry say eating sugar for breakfast is optimal if you must eat sugar at all.

**Smoothies and yogurts are excellent breakfast options.**

The author argues that smoothies and yogurts may not be the best option for breakfast, as many sneakily contain sugar. This answer is incorrect.

**Low sugar breakfasts are best for a healthy lifestyle.**

This is not an example of a counterargument, as this IS the author's argument. This answer is incorrect.

**Protein is the most important component of breakfast.**

One of the author's secondary points is that protein is a critical part of a healthy breakfast. This is not an example of a counterargument, therefore this answer is incorrect.

**Quantum Effects in Bird Migration**

As children, we learn that birds migrate to warmer climates in the winter. But how do birds know how to find their way? Like sailors of the past, birds use the celestial world above us as a compass. However, scientists have recently discovered birds are able to 'see' and use the Earth's magnetic field as an additional migratory map. Formed photochemically in the eyes of a bird, small quantum effects in brief molecular pieces, called radical pairs, suggest that birds are essentially able to see the magnetic field lines of our Earth and use that as a guide along their journey. Magnetoreception, or using a magnetic field to perceive direction, seems to be equally as important for migrating birds as the stars and other celestial bodies in the skies. Birds' possession of these special quantum eye traits are so developed that in a laboratory, even if the magnetic field is inverted, birds experience no disruption to their sense of orientation.

Next time you observe migrating birds, marvel at their unique capability to navigate between temporal homes, year after year.

*“Next time you observe migrating birds, marvel at their unique capability to navigate between temporal homes, year after year.”*

**35. Which of the following sentences from the passage is evidence to reinforce the claim presented in the above statement?**

- a. As children, we learn that birds migrate to warmer climates in the winter.
- b. Formed photochemically in the eyes of a bird, small quantum effects in brief molecular pieces, called radical pairs, suggest that birds are essentially able to see the magnetic field lines of our Earth and use that as a guide along their journey.**
- c. Birds’ possession of these special quantum eye traits are so developed that in a laboratory, even if the magnetic field is inverted, birds experience no disruption to their sense of orientation.
- d. Magnetoreception, or using a magnetic field to perceive direction, seems to be equally as important for migrating birds as the stars and other celestial bodies in the skies.

**Formed photochemically in the eyes of a bird, small quantum effects in brief molecular pieces, called radical pairs, suggest that birds are essentially able to see the magnetic field lines of our Earth and use that as a guide along their journey.**

This answer is correct. The statement provides information that reinforces the claim in the question. For instance, birds are able to navigate between temporal homes because they are able to see and use the magnetic field lines as a guide. This information serves as evidence and backs up the claim.

**As children, we learn that birds migrate to warmer climates in the winter.**

This answer is incorrect. The statement does not provide any evidence to support the claim in the question, and only shows what we initially learn about birds.

**Birds’ possession of these special quantum eye traits are so developed that in a laboratory, even if the magnetic field is inverted, birds experience no disruption to their sense of orientation.**

This answer is incorrect. The statement provides information about laboratory testing related to the topic, and does not provide evidence about migrating birds in the wild.

**Magnetoreception, or using a magnetic field to perceive direction, seems to be equally as important for migrating birds as the stars and other celestial bodies in the skies.**

This answer is incorrect. Although this statement provides information about magnetoreception, it does not fully provide evidence to support the claim in the question, as this statement also includes extra information about other celestial bodies in the skies.

### Adopt, Don’t Shop

Are you thinking of welcoming a dog or cat into your home? Although all types of pets can be a great addition to any family, it is always best to check your local animal shelters instead of buying a pet from a breeder or pet store. In the United States alone, over one million adoptable dogs and cats in animal shelters are euthanized each year due to a lack of space and funding. Recognizing the severity of this issue is of utmost importance, and we should all do our part to help animals in need.

**36. Which of the following characterizes the mode of the passage?**

- a. To inform
- b. To persuade**
- c. To describe
- d. To satirize

**To persuade**

This is the correct answer. The passage has a persuasive mode, and is evident by phrases such as “it is always best”, “utmost importance”, and “we should all do our part”.

**To inform**

This is incorrect. Although the passage contains a fact about the rate of pet euthanization, it is not the purpose of the passage and only serves to provide evidence to the pervasive argument.

**To describe**

This is incorrect. The passage does describe the issue of pet euthanization and how people can help reduce these rates, but it is not the mode of the passage. The author makes a persuasive argument and urges readers to do something.

**To satirize**

This is incorrect. Nothing in the passage is satirized. Rather, the author makes a persuasive argument and urges the readers to do something.

**37. Which of the following sentences is a logical addition to the end of the passage?**

- a. **When you adopt a pet, you not only gain a new furry friend, but you can help save a life, too!**
- b. Most pet stores are known to raise their prices for certain dog breeds, which contributes to an unnecessary competition between pets.
- c. We should all make a monetary donation to our local pet shelters, as they need more support.
- d. In order to make sure your pet transitions well from the shelter to your home, you should prepare your house accordingly.

**When you adopt a pet, you not only gain a new furry friend, but you can help save a life, too!**

This is the correct answer. It is a logical addition to the end of the passage because it reaffirms what the author was persuading the readers to do: adopt a pet rather than buying one. This statement also references back to the evidence presented in the passage regarding the rate of animal euthanization.

**Most pet stores are known to raise their prices for certain dog breeds, which contributes to an unnecessary competition between pets.**

This is incorrect. The author only briefly mentions pet stores, and it is not the main idea of the passage. This sentence would seem a bit out of place since it goes into detail on something that was not expanded upon in the passage.

**We should all make a monetary donation to our local pet shelters, as they need more support.**

This is incorrect. Although this statement is persuasive and fits with the mode of the passage, the author did not mention monetary donations. Rather, the author is urging readers to adopt a pet rather than buy one. The detail regarding "lack of space and funding" in animal shelters is only a minor detail and would not warrant this additional sentence.

**In order to make sure your pet transitions well from the shelter to your home, you should prepare your house accordingly.**

This is incorrect. Even though this statement relates to the topic, it would not fit well with this passage because the author did not include information about helping pets transition from the shelter to a new home.

If you experience any issues with the product in the first 30 days of use, please call our Customer Service hotline to receive a free replacement.

**38. In which of the following sources would the sentence above most likely be found?**

- a. A textbook
- b. An anthology
- c. **A warranty**
- d. A handbook

**A warranty**

This is the correct answer. A warranty would include information about if a product is eligible for repairs or replacements.

**A textbook**

This is incorrect. A textbook would include key ideas for a certain subject, and the information in this sentence relates to a specific product.

**An anthology**

This is incorrect. An anthology would contain a collection of documents, or writing (such as short stories or poems). The information in this sentence relates to a specific product.

**A handbook**

This is incorrect. A handbook would include rules and regulations about something specific, such as for a company or school. The information in this sentence relates to a specific product.

**39. Which of the following sources is most appropriate for finding information about how to format a research paper?**

- a. An index
- b. An almanac
- c. A user manual
- d. **A style guide**

**A style guide**

This is the correct answer. A style guide would contain information about how to format different types of writing, as well as rules for writing and syntax.

**An index**

This is incorrect. An index would include a list of all names, subjects, and ideas in a piece of writing.

**An almanac**

This is incorrect. An almanac contains information related to the calendar, as well as changes in climate and other environmental phenomena.

**A user manual**

This is incorrect. A user manual would include information regarding a specific system or product. It would not contain information about formatting a research paper.

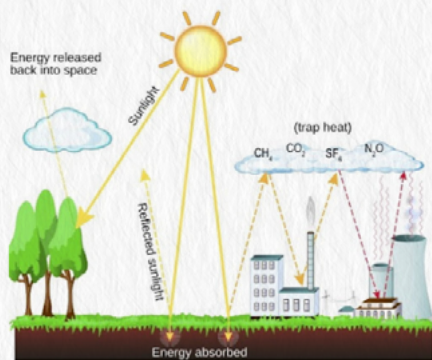
**40. Brad makes \$11.25 an hour working at HEB as a cashier. He recently received a promotion and will now be paid \$15.50 an hour. If he works 40 hours per week, how much more is he getting paid? (Round to the nearest dollar. Do not include a dollar sign, comma, or decimal point.)**

**\$170.**

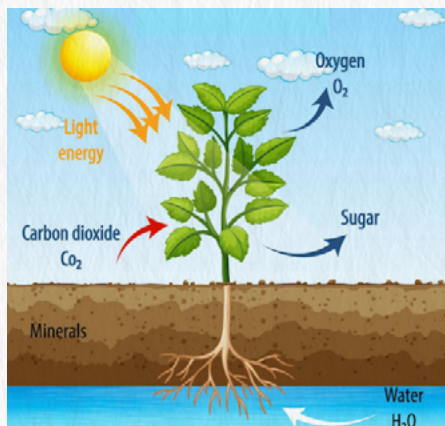
This is the correct answer. First, you need to understand how much Brad was making before the promotion. To do this, you need to multiply \$11.25 by 40 (the number of hours he works per week). \$11.25 multiplied by 40 is \$450. Secondly, you need to understand how much Brad will make with the promotion. To do that, you need to multiply \$15.50 by 40 (the number of hours he still works per week). \$15.50 multiplied by 40 is \$620. The last step is to figure out how much more Brad is getting paid with the promotion. To do that, you need to find the difference between the two weekly totals. \$620 minus \$450 is \$170. So, Brad is getting paid \$170 more with the promotion.

**41. Which of the following images is indicative of how greenhouse gasses affect**

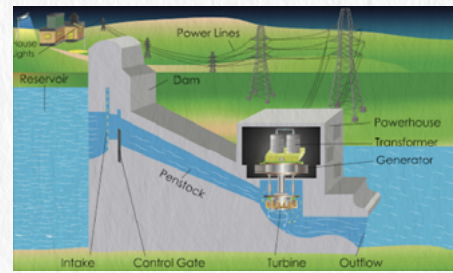
a.



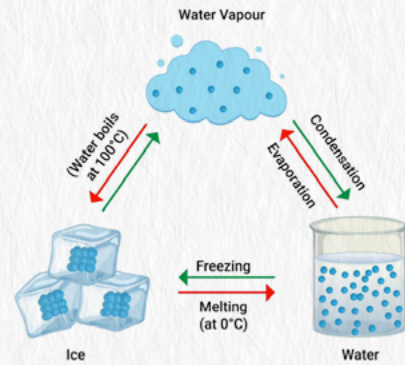
b.



c.



d.



**(Graphic A)**

This is the correct answer. This diagram illustrates how greenhouse gases affect climate change. From the diagram, you can see that the Sun's rays warm the Earth, and while some heat escapes into space, some heat is trapped by greenhouse gases, thus traveling back to Earth and affecting climate change.

**(Graphic B)**

This is incorrect. This diagram shows the process of photosynthesis. From the diagram, you can see that sunlight is absorbed by the plants, carbon dioxide enters the plant, and the plant then emits oxygen. This process is not related to how greenhouse gases affect climate change.

**(Graphic C)**

This is incorrect. This diagram shows how a hydropower dam works through a step-by-step process. From the diagram, you can see that the intake and force of water are responsible for spinning a turbine at a low speed, and then entering into the river. This process is not related to how greenhouse gases affect climate change.

**(Graphic D)**

This is incorrect. This diagram shows different states of matter and how matter can transform within each process. For instance, the diagram highlights how a solid can become a liquid through melting, and then a liquid can become a gas through condensation. This process is not related to how greenhouse gases affect climate change.

**42. Which of the following is an element used in research papers that gives credit to referenced work from other authors?**

- a. Materials and methods
- b. Abstracts
- c. Citations**
- d. Acknowledgments

#### Citations

This is the correct answer. In a research paper, citations make note of material in your own work that are from other authors.

#### Materials and methods

This is incorrect. In a research paper, the section explaining materials and methods would detail the way you conducted your research or project.

#### Abstracts

This is incorrect. Abstracts are short summaries about the content of the research paper.

#### Acknowledgments

This is incorrect. A section for acknowledgments is generally at the end of a research paper, and is written by the author to thank anyone (or institution) that helped with the research or guided them. These are usually limited to personal or professional connections.

---

Many different engineers are responsible for the concept behind escalators, originally known as “Revolving Stairs”, created in the late nineteenth century. The idea was first developed by engineer Jesse Reno, but credit was ultimately given to Charles Seeberger after a long series of redesigns and negotiations. Seeberger later partnered with Otis Elevator Co., which coincidentally, remains the global leader in escalator and elevator manufacturing to this day. Improved technology has helped guarantee a safer experience for passengers now, but the simple process has remained substantially the same over the years.

**43. Which of the following words signifies sequence?**

- a. Now
- b. Substantially
- c. Coincidentally
- d. Ultimately**

#### Ultimately

This is the correct answer. This word signifies sequence and is evident through the phrase, “...but credit was ultimately given to Charles Seeberger after a long series of...”. This word shows that in the end of the redesigns and negotiations, Seeberger received the credit.

#### Now

This is incorrect. This word does not signify sequence. Rather, it brings the idea back to modern-day through the phrase, “...has helped guarantee a safer experience for passengers now”.

#### Substantially

This is incorrect. This word does not signify sequence. It is an adverb that highlights something significant. In this case, the author wants to highlight the fact that the simple process behind escalators has remained significantly (or substantially) the same.

#### Coincidentally

This is incorrect. This adverb shows something that has resulted somewhat from chance. In the passage, the author notes that “Seeberger later partnered with Otis Elevator Co., which coincidentally, remains the global leader in escalator and elevator manufacturing to this day”. This is an interesting fact highlighted by the author.

**44. Write the following in the correct order they would be found in a text.**

Title Page

Table of Contents

Abstract

Afterword

A **Title Page** is the first thing that appears in a written work since it introduces the text as a whole, starting from its title. Next, you will see a **Table of Contents**, which lists the chapters or sections of the written work, along with page numbers of where readers can find these specific sections. After that, you will see an **Abstract** for the paper, which is a brief summary of the main content. The abstract can help readers get a better understanding of what they are about to read, so it comes before the main piece of writing. Lastly, the **Afterword** is the final piece of the text, because it comes at the end of the main content. It adds extra information that is complementary to the main text.

45. What is the definition of the word permeable as used in context?

Wood is permeable to oil because it soaks up the substance.

- a. **Absorbent**
- b. Impenetrable
- c. Sticky
- d. Adaptive

**Absorbent**

This is correct. Permeable means “able to absorb”. Since wood is able to soak up oil, it absorbs it.

**Impenetrable**

This is incorrect because it means “impassable”. If wood is able to soak up oil, the oil is able to pass through or go into the wood.

**Sticky**

This definition does not make sense in context. Wood is not “sticky” in this sentence. Instead, it absorbs oil.

**Adaptive**

This is incorrect. Adaptive means “able to change, adjust, or alter.” In this case, the wood is not changing. It is a material that is absorbent.





# TEAS<sup>®</sup> 7

## Math Practice Test

# Questions:

1.  $3(7^2 + 5) \div 6 - 3$

- a.  $\frac{49}{3}$
- b. 26
- c. 23
- d. 24

2. Solve for x.  
 $2(3x - 1) - 2(x + 5) = 12$

- a. 0
- b. 6
- c. 4
- d. 5

3. 92 pounds is equal to how many kilograms?  
Round to the nearest hundredth if necessary.

- a. 42.41
- b. 102.44
- c. 24.21
- d. 41.82

4. Solve  $68.567 - 13 - 2.43$ .

- a. 53.137
- b. 68.311
- c. 83.997
- d. 43.576

5.  $2x + 5y = 19$   
 $4x + 3y = 17$

What are the values of x and y?

- a.  $x = 17$  and  $y = -3$
- b.  $x = 3$  and  $y = 2$
- c.  $x = 2$  and  $y = 3$
- d.  $x = -3$  and  $y = 17$

6. Convert  $21.4^\circ\text{C}$  into  $^\circ\text{F}$ .

- a.  $61.56^\circ\text{F}$
- b.  $70.52^\circ\text{F}$
- c.  $58.14^\circ\text{F}$
- d.  $66.92^\circ\text{F}$

7. A soccer team with 16 players gets a donation of \$7,296 from a small local business to share equally. Each of the team members agrees to donate \$137 to a local charity, pay \$117 towards transportation for the team, and to spend \$32 on dinner. How much money will each player have left?

Please do not include the dollar sign in your answer.

---

8. 7 gallons are equal to \_\_\_\_\_ ounces.

- a. 112
- b. 8,960
- c. 56
- d. 896

9. Solve  $25.66 \times 8.342$   
Please round to the nearest hundredth.

---

10. The scale on a blueprint for a house is 1.2 in : 6 yd.

If one side of the house is 15 inches long on the blueprint, what is the actual length of the side of the house?

- a. 75 in
- b. 75 yd
- c. 324 in
- d. 324 yd

11. Max has 2.5 times the number of marbles that Jacob has. Jacob has 34 marbles. Steven has 0.2 times the number of marbles that Max has.

How many marbles does Steven have?

---

12. In 3 shifts, a worker collects 14 devices. How many devices would he collect in 18 shifts?
- 23
  - 252
  - 84
  - 54
13. 13 centimeters is equal to how many inches? Round your answer to the nearest hundredth.
- 20.92
  - 5.12
  - 5.31
  - 8.08
14. Solve  $1\frac{3}{10} + 2\frac{5}{8}$
- $3\frac{37}{40}$
  - $3\frac{4}{9}$
  - $3\frac{3}{16}$
  - $3\frac{3}{40}$
15. If 17 dollars is equivalent to 266 Egyptian Pounds, how many Pounds would you get with \$121?
- 54,716.2
  - 37.4
  - 235,281.8
  - 1,893.3
16. 93 m is equal to \_\_\_\_\_ km.
- 0.093
  - 9.3
  - 93,000
  - 9,300
17. Solve  $3\frac{5}{8} \times 2\frac{2}{5}$
- $6\frac{1}{4}$
  - $\frac{10}{87}$
  - $8\frac{7}{10}$
  - $7\frac{9}{16}$
18. On a recent road trip, Orlando drove an unknown number of miles during his first week. He then drove fifteen more miles in his second week and twenty-five fewer miles in his third week when compared to the first week. Write an expression that represents the total number of miles that Orlando drove in the 3-week road trip.
- $3x - 40$
  - $3x + 10$
  - $3x + 40$
  - $3x - 10$
19. The city's population has grown by  $\frac{1}{6}$  in 2020, and in 2021 it has grown by another  $\frac{2}{5}$  from 2020. If in 2019 the population was 155,880 people, what has it become in 2021?
- 254,604
  - 181,860
  - 72,744
  - 25,980
20. School shirts cost \$6.50 each and pants cost \$12 each. Thomas has \$64 for his school uniform. Write an inequality to find combinations for how many shirts and pants Thomas can buy.
- $6.50s + 12p > 64$
  - $6.50s + 12p \geq 64$
  - $6.50s + 12p < 64$
  - $6.50s + 12p \leq 64$
21. If two even numbers are added to an odd number and the result is multiplied by an odd number, which of the following could be the result?
- Please select all that apply.
- 175
  - 193
  - 78
  - 110
  - 62

22. Solve for  $x$ :  
 $4x - 12 \geq 6x + 2$

- a.  $x \geq -7$
- b.  $x \leq 7$
- c.  $x \leq -7$
- d.  $x \geq 7$

23. Write 0.932 as a fraction.

- a.  $\frac{233}{25}$
- b.  $\frac{250}{233}$
- c.  $\frac{25}{233}$
- d.  $\frac{233}{250}$

24. Simplify the following expression:  
 $-4 - 5(x - 3) + 5$

- a.  $-5 + 16x$
- b.  $-5x - 2$
- c.  $-5 - 2x$
- d.  $-5x + 16$

25. What is  $1\frac{5}{8}$  as a decimal?

- a. 1.58
- b. 1.625
- c. 0.53
- d. 1.875

26. The table below shows the scores of 5 students at an exam:

Name of student	Score (Out of 100)
Aditi	76
Imran	85
Mark	93
Aleena	56
Josh	61

Which of the following statements correctly describes the above information?  
 Please select all that apply.

- a. The mean is greater than the median for this collection.
- b. The median is greater than the range for this collection.
- c. The range is less than half of the median for this collection.
- d. The mean is equal to the median for this collection.
- e. There is no mode.

27. Oscar ordered food delivery for his family dinner. The total of the order was \$122.19. If he was charged a 7% service fee and gave a 15% tip on the bill after the service fee, what was the final total of his order?

- a. \$62.33
- b. \$125.86
- c. \$150.35
- d. \$144.74

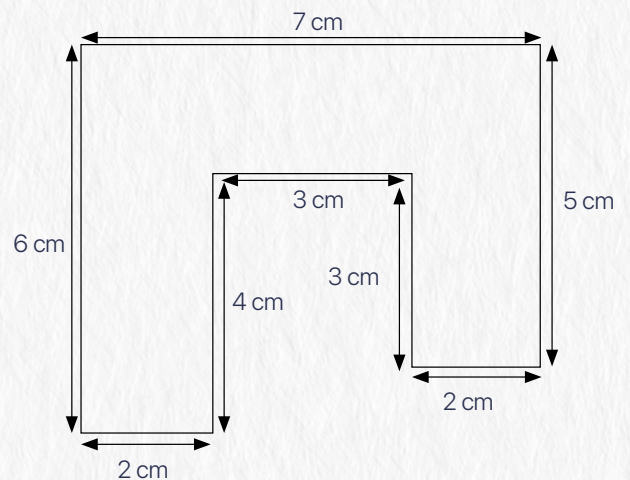
28. What is the area of a circle with a radius of 9 in? (Use 3.14 for  $\pi$ )

- a. 127.17 in<sup>2</sup>
- b. 254.34 in<sup>2</sup>
- c. 56.52 in<sup>2</sup>
- d. 85.46 in<sup>2</sup>

29. An emergency room patient's heart rate dropped 30% to 63 beats per minute. What was the patient's heart rate prior to the drop in beats per minute?

- a. 90
- b. 210
- c. 44
- d. 19

30. What is the area of the following shape?



- a. 28 cm<sup>2</sup>
- b. 64 cm<sup>2</sup>
- c. 42 cm<sup>2</sup>
- d. 32 cm<sup>2</sup>

**31.** An event coordinator has a budget of \$680. If she spent \$75 on balloons and \$65 on invitations, what percent of her budget does she have left?

- a. 79.4%
- b. 20.6%
- c. 9.6%
- d. 86.7%

**32.** Jessica is wrapping a gift in a rectangular box with gift wrapping paper for a birthday party. The box is 11 inches long, 8 inches wide, and 5 inches tall. How much gift wrapping paper will she need to wrap the box?

- a. 150 in<sup>2</sup>
- b. 440 in<sup>2</sup>
- c. 183 in<sup>2</sup>
- d. 366 in<sup>2</sup>

**33.** Order from least to greatest:  
 $-\frac{5}{6}$ ;  $\frac{1}{6}$ ;  $\frac{1}{2}$ ;  $-\frac{1}{9}$

\_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ;

**34.** Carrie buys a can of paint from the local hardware store. The radius of the paint can is 4 inches and it is 11 inches tall. If the paint can is only one-half full, what is the volume of paint inside it?

$$V = \pi \times r^2 \times h$$

Use 3.14 for  $\pi$ .

- a. 376.8 in<sup>2</sup>
- b. 276.32 in<sup>3</sup>
- c. 216.9112 in<sup>2</sup>
- d. 552.64 in<sup>3</sup>

**35.** Order from least to greatest:  
 2.4,  $-2\frac{5}{6}$ ,  $\frac{12}{15}$ ,  $\frac{17}{8}$ , -217%

\_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ;

**36.** 855 m is equal to \_\_\_\_\_ km.

\_\_\_\_\_

**37.** What is the largest number that still rounds to 154?

- a. 154.52
- b. 154.23
- c. 153.62
- d. 153.61

**38.** Ivy spends \$5.85 for 3 pounds of fruit and \$9.00 for 2.7 pounds of vegetables. Approximate the average cost per pound Ivy spent on the fruits and vegetables.

- a. \$2.50
- b. \$6.60
- c. \$5.00
- d. \$10.00

# Answers:

My Total Score \_\_\_\_ / 38

1. D
2. B
3. D
4. A
5. C
6. B
7. 170
8. D
9. 214.06
10. B
11. 17
12. C
13. B
14. A
15. D
16. A
17. C
18. D
19. A
20. D
21. A,B
22. C
23. D
24. D
25. D
26. B
27. C
28. B
29. A
30. A
31. A
32. D
33.  $-\frac{5}{6}$   $-\frac{1}{9}$   $\frac{1}{6}$   $\frac{1}{2}$
34. B
35.  $-2\frac{5}{6}$ ,  $-217\%$ ,  $\frac{12}{15}$ ,  $\frac{17}{8}$ , 2.4.
36. 0.855 km
37. B
38. A

## SCORE SHEET

**Directions:** Use the score tracker below to mark off which questions you answered correctly and which ones you got wrong. The corresponding skill title is the name of the lesson in our [TEAS 7 Math Course](#). Click on each link to learn more about that topic and continue to practice in order to improve your score in that area.

Question	Correct?	Topic
1		<a href="#">Order of Operations</a>
2		<a href="#">Solving Multi-Step Equations</a>
3		<a href="#">Standard &amp; Metric Conversions: Weight/Mass</a>
4		<a href="#">Adding &amp; Subtracting Decimals</a>
5		<a href="#">Solving Equations - The Basics</a>
6		<a href="#">Celsius &amp; Fahrenheit Conversions</a>
7		<a href="#">Word Problems with Whole Numbers</a>
8		<a href="#">Standard &amp; Metric Conversions: Liquid</a>
9		<a href="#">Multiplying Decimals</a>
10		<a href="#">Scaling</a>
11		<a href="#">Word Problems with Decimals</a>
12		<a href="#">Setting up Rates &amp; Word Problems</a>
13		<a href="#">Standard &amp; Metric Conversions: Distance</a>
14		<a href="#">Adding &amp; Subtracting Fractions &amp; Mixed Numbers</a>
15		<a href="#">Word Problems with Ratios &amp; Proportions</a>
16		<a href="#">Metric to Metric Conversions</a>
17		<a href="#">Multiplying Fractions &amp; Mixed Numbers</a>
18		<a href="#">Writing Expressions &amp; Equations</a>
19		<a href="#">Word Problems with Fractions</a>
20		<a href="#">Writing Inequalities</a>
21		<a href="#">Even and Odd Rules</a>
22		<a href="#">Solving Inequalities</a>
23		<a href="#">Converting Fractions &amp; Decimals</a>
24		<a href="#">Simplifying Expressions</a>
25		<a href="#">Converting Fractions &amp; Decimals</a>
26		<a href="#">Statistics Word Problems</a>
27		<a href="#">Word Problems with Percent</a>
28		<a href="#">Area and Circumference of a Circle</a>
29		<a href="#">Finding 100%</a>
30		<a href="#">Area and Perimeter of Irregular Shapes</a>
31		<a href="#">Word Problems with Percent</a>
32		<a href="#">Surface Area</a>
33		<a href="#">Ordering Fractions</a>
34		<a href="#">Volume of 3D Shapes</a>
35		<a href="#">Ordering Rational Numbers</a>
36		<a href="#">Standard &amp; Metric Conversions: Distance</a>
37		<a href="#">Rounding</a>
38		<a href="#">Word Problems with Rounding</a>
Total	___/38	

**Directions:** Use your completed score sheet on the previous page to identify which TEAS® 7 Math topics you should prioritize studying if you have limited time. Each link in the table below takes you directly to the corresponding lesson in our [TEAS 7 Math Course](#), so you can start studying right away!

Topic Breakdown			
Header	Topic	Questions	Score
Numbers & Algebra	<a href="#">Perform Arithmetic Operations with Rational Numbers (Whole Numbers, Decimals, &amp; Fractions)</a>	1, 4, 7, 9, 11, 14, 17, 19, 21	___/9
	<a href="#">Convert Among Decimals, Fractions &amp; Percents</a>	23, 25	___/2
	<a href="#">Solve Real World Problems Involving Percents</a>	27, 29, 34	___/3
	<a href="#">Compare &amp; Order Rational Numbers</a>	15, 33	___/2
	<a href="#">Solve Equations in One Variable</a>	2, 5	___/2
	<a href="#">Apply Estimation Strategies and Rounding Rules to Real World Problems</a>	37, 38	___/2
	<a href="#">Solve Real World Problems Involving Proportions, Ratios, and Rates of Change</a>	12, 15	___/2
	<a href="#">Translate Phrases and Sentences into Expressions, Equations, and Inequalities</a>	18, 20, 22, 24	___/4
	<a href="#">Interpret Relevant Information from Tables, Charts, and Graphs</a>	n/a	
Measurement & Data	<a href="#">Evaluate Information in Tables, Charts, and Graphs Using Statistics</a>	26	___/1
	<a href="#">Explain the Relationship Between Variables</a>	n/a	
	<a href="#">Calculate Geometric Quantities</a>	28, 30, 31, 36	___/4
	<a href="#">Convert Within and Between Standard and Metric Units</a>	3, 6, 8, 10, 13, 16, 32	___/7



# Answer Explanations:

## 1. $3(7^2 + 5) \div 6 - 3$

- a.  $49/3$
- b. 26
- c. 23
- d. **24**

To simplify this expression, we must follow the order of operations - PEMDAS: parentheses, exponents, multiplication, division, addition, subtraction.

### Step 1: Find/Simplify Anything Involving Parentheses

Remember that  $7^2$  really means  $(7 * 7)$ , which is 49.

$$3(7^2 + 5) \div 6 - 3$$

$$3(49 + 5) \div 6 - 3$$

Since there is still an expression in parentheses, we add the two numbers in parentheses.

$$3(49 + 5) \div 6 - 3$$

$$3(54) \div 6 - 3$$

### Step 2: Multiply and/or divide.

Since there are no more operations in parentheses and no more exponents, we now move on to multiplication and division – whichever comes first, working from left to right.

$$3(54) \div 6 - 3$$

$$162 \div 6 - 3$$

$$162 \div 6 - 3$$

$$27 - 3$$

### Step 3: Add and/or subtract.

The last step is addition and subtraction – whichever comes first, working from left to right.

$$27 - 3 = 24$$

## 2. Solve for x.

$$2(3x - 1) - 2(x + 5) = 12$$

- a. 0
- b. **6**
- c. 4
- d. 5

### Step 1: Distribute.

In this problem, we are first going to **remove the parentheses** from the equation. To do this we must **multiply the term** in front of each set of parentheses by each term inside its respective parenthesis. This process is called distribution.

$$2(3x - 1) - 2(x + 5) = 12$$

$$6x - 2 - 2x - 10 = 12$$

### Step 2: Combine any like terms.

Now we can **rearrange the equation** so that we can combine all whole numbers and all terms with the same variable. Also, remember to include the sign **IN FRONT** of each term.

$$6x - 2 - 2x - 10 = 12$$

If we rearrange, it becomes:

$$6x - 2x - 2 - 10 = 12$$

This simplifies to:

$$4x - 12 = 12$$

### Step 3: Solve the equation.

When solving equations, it's easiest to start with the constants. In this equation, -12 is the constant term, so we have to undo subtraction using addition. Therefore we are going to add 12 to both sides.

$$4x - 12 + 12 = 12 + 12$$

Which then becomes:

$$4x = 24$$

Now we can solve.

$$(4x/4) = (24/4)$$

$$1x = 6$$

$$x = 6$$

## 3. 92 pounds is equal to how many kilograms? Round to the nearest hundredth if necessary.

- a. 42.41
- b. 102.44
- c. 24.21
- d. **41.82**

### Step 1: Determine the conversion factor you will use.

For this problem, we are going to use the kilogram to pounds conversion factor.

$$1 \text{ kilogram} = 2.2 \text{ pounds}$$

### Step 2: Set up a proportion.

$$\frac{1 \text{ kilogram}}{2.2 \text{ pounds}} = \frac{x \text{ kilograms}}{92 \text{ pounds}}$$

Make sure that both numerators contain kilograms, and both denominators contain pounds. This keeps units the same.

**Step 3: Cross-multiply and solve.**

$$\frac{1 \text{ kilogram}}{2.2 \text{ pounds}} = \frac{x \text{ kilograms}}{92 \text{ pounds}}$$

Becomes:

$$(2.2 \times x) = (1 \times 92)$$

When we simplify, we get:

$$2.2x = 92$$

Next, divide both sides by 2.2.

$$\frac{2.2x}{2.2} = \frac{92}{2.2}$$

This comes out to:

$$x = 41.81818$$

Our question asks us to round to the nearest hundredth. The 8 following the 1 in the hundredths place rounds it up to 2. The answer is **41.82 kilograms**.

**4. Solve  $68.567 - 13 - 2.43$ .**

- a. 53.137
- b. 68.311
- c. 83.997
- d. 43.576

**Step 1: Line up the numbers by their decimal point.**

$$68.567 - 13 - 2.43$$

This would look like:

$$\begin{array}{r} 68.567 \\ 13. \\ -2.43 \\ \hline \end{array}$$

**Step 2: Fill in any empty spots with a placeholder zero.**

$$\begin{array}{r} 68.567 \\ 13.000 \\ -02.430 \\ \hline \end{array}$$

**Step 3: Subtract.**

$$\begin{array}{r} 68.567 \\ 13.000 \\ -2.430 \\ \hline 53.137 \end{array}$$

$$\begin{array}{l} 5. \quad 2x + 5y = 19 \\ \quad 4x + 3y = 17 \end{array}$$

**What are the values of x and y?**

- a.  $x = 17$  and  $y = -3$
- b.  $x = 3$  and  $y = 2$
- c.  **$x = 2$  and  $y = 3$**
- d.  $x = -3$  and  $y = 17$

**Step 1: Manipulate the equations so you can cancel out a term (variable).**

When we have a system of equations in which both equations are written in the form  $ax + by = c$ , we can solve the system using a method called **ELIMINATION**. To use elimination, we need to make sure that **one of the pairs of variables cancels out** between the two equations when we add them together.

$$2x + 5y = 19$$

$$+ \quad 4x + 3y = 17$$

If we look at the x-terms we can multiply 2x by **-2** and it will become  $-4x$ , which if added to the other term,  $4x$ , will cancel them out. This means that we will **multiply all terms in the top equation by -2**:

$$-2(2x + 5y) = -2(19)$$

$$-4x - 10y = -38$$

So our equations become:

$$-4x - 10y = -38$$

$$4x + 3y = 17$$

**Step 2: Add the equations and solve.**

Once we have one pair of the variable terms cancel out, we can add the equations to each other. We add x-term to x-term and y-term to y-term, vertically.

$$-4x - 10y = -38$$

$$4x + 3y = 17$$

$$0x - 7y = -21$$

This results in canceling out the x-terms, giving us an equation that only has y-terms so we can solve for y.

$$-7y = -21$$

$$\left( \begin{array}{l} -7y \\ - \end{array} \middle| \begin{array}{l} -21 \\ - \end{array} \right) = \left( \begin{array}{l} -21 \\ -7 \end{array} \middle| \begin{array}{l} -7 \\ - \end{array} \right)$$

This simplifies to:

$$1y = 3$$

$$\mathbf{y = 3}$$

**Step 3: Find the value of the other variable.**

Now that we have the value of the y-term we can substitute it into **either** of the original equations to find the value of the x-term.

$$2x + 5y = 19$$

$$2x + 5(3) = 19$$

$$2x + 15 = 19$$

$$2x + 15 - 15 = 19 - 15$$

$$2x = 4$$

Divide both sides by 2.

$$\left(\frac{2x}{2}\right) = \left(\frac{4}{2}\right)$$

This simplifies to:

$$1x = 2$$

$$x = 2$$

So for this system, our solution is **x = 2 and y = 3**.

**6. Convert 21.4 °C into °F.**

- a. 61.56 °F
- b. 70.52 °F**
- c. 58.14 °F
- d. 66.92 °F

**Step 1: Determine which formula to use.**

Since we are given Celsius and are solving for Fahrenheit we will use the following formula:

$$(\text{°C} \times 1.8) + 32 = \text{°F}$$

**Step 2: Substitute in the provided temperature.**

We are going to use the formula from Step 1, and insert the temperature we were given.

$$(21.4 \text{ °C} \times 1.8) + 32 = \text{°F}$$

**Step 3: Solve following the order of operations.**

Following PEMDAS, we simplify what's in the parentheses first.

$$(21.4 \text{ °C} \times 1.8)$$

So this is what happens:

$$(21.4 \text{ °C} \times 1.8) + 32 = \text{°F}$$

Becomes:

$$38.52 + 32 = \text{°F}$$

We could drop the parentheses since we completed the operation inside of them.

Now we can solve the problem.

$$38.52 + 32 = \text{°F}$$

$$70.52 = \text{°F}$$

- 7. A soccer team with 16 players gets a donation of \$7,296 from a small local business to share equally. Each of the team members agrees to donate \$137 to a local charity, pay \$117 towards transportation for the team, and to spend \$32 on dinner. How much money will each player have left?**

Please do not include the dollar sign in your answer.

**Step 1: Interpret the situation.**

In this situation, we know there are 16 people on the team. We know the original donation amount is \$7,296 and each player receives the same amount of the donation. We also know that each player will spend \$137, \$117, and \$32.

**Step 2: Set up the problem and solve.**

First, we determine the amount of money each player receives from the donation.

$$\text{\$ per player} = \text{total donation} \div \text{number of players}$$

So:

$$\text{\$ per player} = \$7,296 \div 16$$

$$\text{Each player receives } \mathbf{\$456}.$$

Next, we need to know how much money each player spends.

$$\text{\$ spent per player} = 137 + 117 + 32$$

$$\text{Each player spends } \mathbf{\$286}.$$

Finally, we can find the amount that remains by subtracting the expenses of each player from the amount they received.

$$\text{\$ left per player} = \text{\$ per player} - \text{\$ spent per player}$$

$$\text{\$ left per player} = 456 - 286$$

$$\text{Each player will have } \mathbf{\$170} \text{ left.}$$

**8. 7 gallons are equal to \_\_\_\_\_ ounces.**

- a. 112
- b. 8,960
- c. 56
- d. 896**

**Step 1: Determine your first conversion factor.**

Since we are given Celsius and are solving for Fahrenheit we will use the following formula:

$$1 \text{ gal} = 4 \text{ qt}$$

**Step 2: Solve.**

We convert from gallons to quarts by multiplying the number of gallons by 4 because:

$$1 \text{ gal} = 4 \text{ qt}$$

$$7 \text{ gal} \times 4 \text{ qt/gal} = 28 \text{ qt}$$

We convert from quarts to pints by multiplying the number of quarts by 2 because:

$$1 \text{ qt} = 2 \text{ pt}$$

$$28 \text{ qt} \times 2 \text{ pt/qt} = 56 \text{ pt}$$

We convert from pints to cups by multiplying the number of pints by 2 because:

$$1 \text{ pt} = 2 \text{ cups}$$

$$56 \text{ pt} \times 2 \text{ cups/pt} = 112 \text{ cups}$$

We convert from cups to ounces by multiplying the number of cups by 8 because:

$$1 \text{ cup} = 8 \text{ oz}$$

$$112 \text{ cups} \times 8 \text{ oz/cups} = 896 \text{ oz}$$

Therefore 7 gallons is equal to **896** ounces.

**9. Solve  $25.66 \times 8.342$**

Please round to the nearest hundredth.

**Step 1: Set up your problem.**

Line up the numbers like you would for a regular multiplication problem.

$$\begin{array}{r} 25.660 \\ \times 8.342 \\ \hline \end{array}$$

**Step 2: Multiply.**

					4	5	4	
					4	4	4	
					2	2	2	
					4	4	4	
					2	5	6	6
				x	8	3	4	2
					1			
	0	0	1	2	5	1	3	2
	0	0	1	0	2	6	4	0
	0	1	7	6	9	8	0	0
	+2	0	5	2	8	0	0	0
	2	1	4	0	5	5	7	2

**Step 3: Put the decimal place in the right location.**

Since there are a total of 5 numbers to the right of the two decimal points in the problem, there will be 5 numbers that are behind the decimal in the product.

$$214.05572$$

**Step 4: Round to the nearest hundredth.**

$$214.05572 \rightarrow 214.06$$

**10. The scale on a blueprint for a house is 1.2 in : 6 yd.**

**If one side of the house is 15 inches long on the blueprint, what is the actual length of the side of the house?**

- a. 75 in
- b. 75 yd**
- c. 324 in
- d. 324 yd

**Step 1: Set up a proportion.**

First, we can see our conversion is from inches to yards and has a scale of 1.2 in : 6 yd. So, the conversion rate we will use is:

$$1.2 \text{ in} = 6 \text{ yd}$$

We can write our scale as a ratio.

$$\frac{(1.2 \text{ in})}{(6 \text{ yd})}$$

Now we can set up the proportion using the information we have. We know the length of the side of the house in inches, but we do not know how many yards that is (x).

$$(1.2 \text{ in}) / (6 \text{ yd}) = (15 \text{ in}) / (x \text{ yd})$$

**Step 2: Cross-multiply and solve.**

$$(1.2 \text{ in}) / (6 \text{ yd}) = (15 \text{ in}) / (x \text{ yd})$$

Which becomes:

$$(1.2 \text{ in})(x \text{ yd}) = (15 \text{ in})(6 \text{ yd})$$

Which turns into:

$$(1.2 \text{ in})x = (90 \text{ in} \cdot \text{yd})$$

Divide both sides of our equation by 1.2 to isolate the x.

$$(1.2 \text{ in} / 1.2 \text{ in})x = (90 \text{ in} \cdot \text{yd} / 1.2 \text{ in})$$

This means that the final answer is:

$$x = 75 \text{ yd}$$

The actual length of the side of the house is **75 yd**.

**11. Max has 2.5 times the number of marbles that Jacob has. Jacob has 34 marbles. Steven has 0.2 times the number of marbles that Max has.**

**How many marbles does Steven have?**

**Step 1: Interpret the problem.**

First, we must understand what is happening in this situation. To find the number of marbles that Steven has, we need to multiply the number of marbles Max has by 0.2.

**Step 2: Calculate the number of marbles that Max has.**

Since Max has 2.5 times the number of marbles Jacob has, we can multiply the number of marbles Jacob has by 2.5. Remember to multiply without the decimals as the first step.

$$34 \times 2.5 =$$

$$34 \times 25 = 850$$

Since there is 1 number to the right of the decimal point in the problem, there will be 1 number that is behind the decimal in the product.

$$850 \rightarrow 85.0 \rightarrow 85$$

So, Max has 85 marbles.

**Step 3: Calculate the number of marbles that Steven has.**

To find the number of marbles Steven has, we can multiply the number of marbles Max has by 0.2. Remember to multiply without the decimals as the first step.

$$85 \times 0.2 =$$

$$85 \times 2 = 170$$

Since there is 1 number to the right of the decimal point in the problem, there will be 1 number that is behind the decimal in the product.

$$170 \rightarrow 17.0 \rightarrow 17$$

So, Steven has **17** marbles.

**12. In 3 shifts, a worker collects 14 devices. How many devices would he collect in 18 shifts?**

- a. 23
- b. 252
- c. **84**
- d. 54

**Step 1: Interpret the problem.**

In this problem, we know that 14 devices were collected in 3 shifts. We are trying to find the number of devices that were collected over 18 shifts.

**Step 2: Set up a proportion.**

What is missing is the number of devices (x).

So we have:

$$14 \text{ devices} / 3 \text{ shifts} = x \text{ devices} / 18 \text{ shifts}$$

$$14/3 = x/18$$

**Step 3: Cross-multiply and solve.**

$$14 \times 18 = 3 \cdot x$$

This gets simplified to:

$$252 = 3x$$

Now we can solve for x:

$$252/3 = 3x/3$$

$$252 \div 3 = 84$$

$$x = 84$$

There were **84 devices** in the batch.

**13. 13 centimeters is equal to how many inches? Round your answer to the nearest hundredth.**

- a. 20.92
- b. **5.12**
- c. 5.31
- d. 8.08

**Metric Prefixes Chart**

MILLI	CENTI	DECI	UNITS <i>(meter, liter, or gram)</i>	DEKA	HECTO	KILO

**Distance Conversion Chart**

→ ÷12	→ ÷3	÷5,280 feet to miles
----------	---------	-------------------------

Inches	Feet	Yards	Miles

← ×12	← ×3	×5,280 feet to miles
----------	---------	-------------------------

**Step 1: Determine your conversion factor.**

$$1 \text{ inch} = 2.54 \text{ centimeters}$$

**Step 2: We will set up a proportion comparing our units.**

$$\frac{(1 \text{ inch})}{(2.54 \text{ centimeters})} = \frac{(x \text{ inches})}{(13 \text{ centimeters})}$$

We want to make sure that both numerators contain inches, and both denominators contain centimeters. This keeps units the same.

**Step 3: Cross-multiply and solve.**

When we cross-multiply, we multiply one numerator by the opposite denominator.

$$\frac{(1 \text{ inch})}{(2.54 \text{ centimeters})} = \frac{(x \text{ inches})}{(13 \text{ centimeters})}$$

Becomes:

$$\begin{aligned} (1 \times 13) &= (2.54 \cdot x) \\ 13 &= 2.54x \end{aligned}$$

Since we are trying to solve for  $x$ , we must divide both sides by 2.54.

$$\frac{13}{2.54} = \frac{2.54x}{2.54}$$

This comes out to:

$$5.1181 = x$$

Our question does ask us to round to the nearest hundredth, so the correct answer is **5.12 inches**.

**14. Solve  $1\frac{3}{10} + 2\frac{5}{8}$**

- a.  **$3\frac{37}{40}$**
- b.  $3\frac{1}{6}$
- c.  $3\frac{3}{16}$
- d.  $3\frac{3}{40}$

**Step 1: Add the whole parts together.**

Line up the numbers like you would for a regular multiplication problem.

$$1 + 2 = 3$$

**Step 2: Find the least common multiple of the denominators.**

Since 10 and 8 are the denominators of the fractions, we will find the LCM of 10 and 8.

Factors of:

10: 10, 20, 30, 40, 50

8: 8, 16, 24, 32, 40

The least common multiple (LCM) of 10 and 8 is 40.

**Step 3: Create equivalent fractions using the LCM as the new denominator.**

Let's start with  $\frac{3}{10}$ . Since  $10 \times 4 = 40$ , we have to multiply the numerator by the same number.

$$\begin{aligned} \frac{3}{10} &= \frac{(3 \times 4)}{(10 \times 4)} \\ &= \frac{12}{40} \end{aligned}$$

Now for  $\frac{5}{8}$ . Since  $8 \times 5 = 40$ , we will multiply the numerator by the same number.

$$\begin{aligned} \frac{5}{8} &= \frac{(5 \times 5)}{(8 \times 5)} \\ &= \frac{25}{40} \end{aligned}$$

**Step 4: Add the fractions together.**

$$\begin{aligned} \frac{12}{40} + \frac{25}{40} &= \frac{(12+25)}{40} \\ &= \frac{37}{40} \end{aligned}$$

This fraction is already in simplest form so we can move on.

**Step 5: Add the whole parts and the fractional parts together.**

$$3 + \frac{37}{40} = 3\frac{37}{40}$$

**15. If 17 dollars is equivalent to 266 Egyptian Pounds, how many Pounds would you get with \$121?**

- a. 54,716.2
- b. 37.4
- c. 235,281.8
- d. 1,893.3**

**Step 1: Interpret the problem and set up a proportion.**

In this problem, we know that \$17 is equivalent to 266 Egyptian Pounds.

So we have:

$$\begin{aligned} \$17 &\rightarrow \$121 \\ 266 \text{ pounds} &\rightarrow X \text{ pounds} \\ \frac{17}{266} &= \frac{121}{x} \end{aligned}$$

**Step 2: Cross-multiply and solve.**

$$\begin{aligned} (17 \cdot x) &= (121 \times 266) \\ 17x &= 32,186 \end{aligned}$$

Now we can solve for x:

$$\begin{aligned} \frac{17x}{17} &= \frac{32,186}{17} \\ x &= 1,893.3 \end{aligned}$$

\$121 is equal to **1,893.3** Egyptian Pounds.

**16. 93 m is equal to \_\_\_\_\_ km.**

- a. 0.093**
- b. 9.3
- c. 93,000
- d. 9,300

Below is a chart of the metric prefixes most commonly used from smallest (milli) to largest (kilo).

MILLI	CENTI	DECI	UNITS	DEKA	HECTO	KILO
(m)	(c)	(d)	(meter, liter, or gram)	(da)	(h)	(k)

**The Rules:**

For every step you move to the right, you divide your number by that power of ten.

For every step you move to the left, you multiply your number by that power of ten.

**Step 1: Determine how you are moving.**

We are moving **three** steps to the right, so we will divide by 1,000.

**Step 2: Set up your problem and solve.**

All we do here is set up the problem we created from step one and solve it.

$$93 \text{ m} \div 1,000 \text{ km/m} = \mathbf{0.093 \text{ km}}$$

**17. Solve  $3 \frac{5}{8} \times 2 \frac{2}{5}$**

- a.  $6 \frac{1}{4}$
- b.  $10 \frac{1}{87}$
- c.  $8 \frac{7}{10}$**
- d.  $7 \frac{9}{16}$

**Step 1: Convert the mixed numbers into improper fractions**

$$\begin{aligned} 3 \frac{5}{8} &= \frac{(3 \times 8 + 5)}{8} \\ &= \frac{29}{8} \\ 2 \frac{2}{5} &= \frac{(2 \times 5 + 2)}{5} \\ &= \frac{12}{5} \end{aligned}$$

$3 \frac{5}{8} \times 2 \frac{2}{5}$  now becomes  $\frac{29}{8} \times \frac{12}{5}$

**Step 2: Cross-simplify and multiply.**

When we look at the fractions to cross simplify, we find that 12 and 8 have a common factor of 4. We can now reduce the fraction by 4.

$$\begin{aligned} \frac{29}{8} \times \frac{12}{5} &= \frac{29 \times (12 \div 4)}{(8 \div 4) \times 5} \\ &= \frac{29 \times 3}{2 \times 5} \\ &= \frac{87}{10} \end{aligned}$$

**Step 3: Simplify and convert into a mixed number.**

Convert the improper fraction into a mixed number.

$$\begin{aligned} \frac{87}{10} &= 87 \div 10 \\ &= \mathbf{8 \frac{7}{10}} \end{aligned}$$

**18.** On a recent road trip, Orlando drove an unknown number of miles during his first week. He then drove fifteen more miles in his second week and twenty-five fewer miles in his third week when compared to the first week. Write an expression that represents the total number of miles that Orlando drove in the 3-week road trip.

- a.  $3x - 40$
- b.  $3x + 10$
- c.  $3x + 40$
- d.  $3x - 10$

**Step 1: Translate given information into algebra expression.**

**Number of miles driven first week  $\rightarrow x$**

We are also given that Orlando drove fifteen more miles in his second week in comparison to the number he drove the first week.

**Number of miles driven second week  $\rightarrow x + 15$**

Finally, we are told that he drove twenty-five fewer miles in his third week when compared to the first week.

**Number of miles driven third week  $\rightarrow x - 25$**

**Step 2: Determine the total.**

Now that we have all individual expressions, we can find the final sum.

We are asked to write an expression that represents the total number of miles that Orlando drove in the 3-week road trip. To find the total, we need to find the expression that adds all expressions and simplify.

**Step 3: Create equivalent fractions using the LCM as the new denominator.**

$$\begin{aligned} &x + x + 15 + x - 25 \\ &x + x + 15 + x - 25 \\ &x + x + x + 15 - 25 \\ &3x - 10 \end{aligned}$$

**19.** The city's population has grown by  $\frac{1}{6}$  in 2020, and in 2021 it has grown by another  $\frac{2}{5}$  from 2020. If in 2019 the population was 155,880 people, what has it become in 2021?

- a. **254,604**
- b. 181,860
- c. 72,744
- d. 25,980

**Step 1: Determine the population growth in 2020.**

The key words "has grown by  $\frac{1}{6}$ " point to multiplication.

$$\begin{aligned} 155,880 \times \left(\frac{1}{6}\right) &= \left(\frac{155,880}{1}\right) \times \left(\frac{1}{6}\right) \\ &= \frac{(155,880 \times 1)}{(1 \times 6)} \\ &= \frac{(155,880)}{(6)} \\ &= 155,880 \div 6 \\ &= 25,980 \end{aligned}$$

**Step 2: Find the total population in 2020.**

$$155,880 + 25,980 = 181,860$$

**Step 3: Determine the population growth in 2021.**

We need to find what is  $\frac{2}{5}$  of 181,860. Again, we find the key words "has grown by  $\frac{2}{5}$ " to be sure that we should use multiplication.

$$\begin{aligned} 181,860 \times \left(\frac{2}{5}\right) &= \left(\frac{181,860}{1}\right) \times \left(\frac{2}{5}\right) \\ &= \frac{(181,860 \times 2)}{(1 \times 5)} \\ &= \frac{(363,720)}{(5)} \\ &= 363,720 \div 5 \\ &= 72,744 \end{aligned}$$

**Step 4: Find the total population in 2021.**

$$181,860 + 72,744 = 254,604$$

The city's population in 2021 is **254,604 people**.



20. School shirts cost \$6.50 each and pants cost \$12 each. Thomas has \$64 for his school uniform. Write an inequality to find combinations for how many shirts and pants Thomas can buy.

- a.  $6.50s + 12p > 64$
- b.  $6.50s + 12p \geq 64$
- c.  $6.50s + 12p < 64$
- d.  **$6.50s + 12p < 64$**

**Step 1: Interpret the problem.**

**s = number of shirts bought**

**p = number of pants bought**

Total Thomas will spend on the shirts =  $6.50s$

Total Thomas will spend on pants =  $12p$

**Step 2: Write your inequality.**

In this case, we are told he has \$64, which means he can spend **at most** \$64. This means he can spend less than **or** equal to \$64 so we know the symbol "<" will be involved.

Knowing that the total he will spend is the sum of what he spends on shirts ( $6.50s$ ) and the total he will spend on pants ( $12p$ ), now we can construct our inequality:

$$6.50s + 12p < 64$$

21. If two even numbers are added to an odd number and the result is multiplied by an odd number, which of the following could be the result?

Please select all that apply.

- a. 175
- b. 193
- c. 78
- d. 110
- e. 62

**Step 1: Remember Addition Rules for Odd/Even Numbers.**

Odd Number + Odd Number = Even Number

Even Number + Even Number = Even Number

Odd Number + Even Number = Odd Number

**Step 2: Try an example problem or interpret the situation.**

Even Integer + Even Integer = Even Integer (New Sum 1)

Even Integer (New Sum 1) + Odd Integer =

Odd Integer (New Sum 2)

**Step 3: Multiply the result from step 2 by an odd number.**

Odd Number × Odd Number = Odd Number

Even Number × Even Number = Even Number

Odd Number × Even Number = Even Number

**Odd Integer (New Sum 2) × Odd Integer = |Odd Integer**

We expect the result to be an odd integer. The correct answer choices that could potentially be the answer to this problem would be **175** and **193**.

22. Solve for x:  
 $4x - 12 \geq 6x + 2$

- a.  $x \geq -7$
- b.  $x \leq 7$
- c.  **$x < -7$**
- d.  $x \geq 7$

**Step 1: Get all x-terms to one side of the inequality.**

We see that there is a  $6x$  on the right side of the inequality, so we can subtract  $6x$  from both sides so that we only have x-terms on the left side of the equation.

$$4x - 12 - 6x \geq 6x + 2 - 6x$$

Which becomes:

$$-2x - 12 \geq 2$$

**Step 2: Solve the inequality.**

We see that 12 is being subtracted from the  $-2x$ . The  $-12$  is the constant term because there is no x attached, so we have to undo the subtraction by using addition.

$$-2x - 12 + 12 \geq 2 + 12$$

Which becomes:

$$-2x \geq 14$$

Now we can solve:

$$\left( \frac{-2x}{-2} \right) \geq \left( \frac{14}{-2} \right)$$

When an inequality is divided by a negative number the inequality symbol switches direction as shown below:

$$x \leq -7$$

**23. Write 0.932 as a fraction.**

- a.  $\frac{233}{25}$
- b.  $\frac{250}{233}$
- c.  $\frac{25}{233}$
- d.  $\frac{233}{250}$

**Step 1: Read the decimal out loud.**

Therefore, 0.932 is said as:

**Nine Hundred Thirty-two Thousandths**

**Step 2: Write the fraction you read out loud.**

$$\frac{932}{1000}$$

Let's check and see if the fraction can be simplified. 932 and 1000 have a factor of 4 in common so we can simplify the fraction by dividing both the numerator and denominator by 4.

$$\begin{aligned}\frac{932}{1000} \div \frac{4}{4} &= \frac{932 \div 4}{1000 \div 4} \\ &= \frac{233}{250}\end{aligned}$$

Because the only factor that 233 and 250 have in common is 1, the fraction is completely simplified.

0.932 is  $\frac{233}{250}$  when written as a fraction.

**24. Simplify the following expression:  
- 4 - 5(x - 3) + 5**

- a.  $-5 + 16x$
- b.  $-5x - 2$
- c.  $-5 - 2x$
- d.  $-5x + 16$

**Step 1: Apply the distributive property.**

There is a -5 outside of the parentheses, which we will multiply with both terms inside the parentheses.

$$\begin{aligned}-4 - 5(x - 3) + 5 \\ -4 - 5x + 15 + 5\end{aligned}$$

**Step 2: Group like terms.**

$$\begin{aligned}-4 - 5x + 15 + 5 \\ -5x - 4 + 15 + 5\end{aligned}$$

Remember, you MUST include the sign that comes in front of each term. If there is no sign, assume it's a positive sign.

**Step 3: Combine like terms.**

$$-5 + 16x$$

**25. What is  $\frac{15}{8}$  as a decimal?**

- a. 1.58
- b. 1.625
- c. 0.53
- d. **1.875**

**Step 1: Understand the fraction pieces.**

We can write this division problem as: 15 divided by 8 or  $15 \div 8$ .

Because 15 can be also be written as 15.0, this division problem can be set up as:

$$8 \overline{) 15.000}$$

**Step 2: Divide.**

$$\begin{array}{r} \mathbf{1.875} \\ 8 \overline{) 15.000} \\ \underline{-8} \phantom{00} \\ 70 \phantom{0} \\ \underline{-64} \phantom{0} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$\frac{15}{8}$  is **1.875** when written as a decimal.

**26. The table below shows the scores of 5 students at an exam:**

Name of student	Score (Out of 100)
Aditi	76
Imran	85
Mark	93
Aleena	56
Josh	61

Which of the following statements correctly describes the above information?

Please select all that apply.

- a. The mean is greater than the median for this collection.
- b. The median is greater than the range for this collection.**
- c. The range is less than half of the median for this collection.
- d. The mean is equal to the median for this collection.
- e. There is no mode.

In order to determine all of the correct statements, we will need to find the median, mode, mean, and range of the set of numbers.

The **mean** value of a collection of numbers is the sum of all the numbers in the collection divided by the total numbers in the collection.

The **median** of a collection of numbers is the middle number when the collection is ordered in ascending or descending order. When the collection has an even number of values, then the median is the average of the two numbers in the middle.

The **mode** of a collection is the value that is repeated the most.

The **range** of a collection is the difference between the highest and the lowest value of the collection.

**Step 1: Calculate the mean.**

The sum of all numbers in the collection can be calculated as follows:

$$76 + 85 + 93 + 56 + 61 = 371$$

The **mean** can now be found as:

$$\text{mean} = (371 \div 5) = 74.2$$

**Step 2: Determine the median.**

Arrange the numbers in ascending order:

$$56, 61, 76, 85, 93$$

We have been given an odd number of values, so we just need to see which number is in the middle.

$$56, 61, 76, 85, 93$$

Hence, the **median** of this collection is **76**.

**Step 3: Find the mode.**

The mode of this collection does not exist since none of the numbers are repeated.

**Step 4: Calculate the range of the collection.**

The range of the collection is:

$$93 - 56 = 37$$

We can see that the **median is greater than the range**.

**The median is 76 and the range is 37. 37 is less than half of the median.**

**27. Oscar ordered food delivery for his family dinner. The total of the order was \$122.19. If he was charged a 7% service fee and gave a 15% tip on the bill after the service fee, what was the final total of his order?**

- a. \$62.33
- b. \$125.86
- c. \$150.35**
- d. \$144.74

**Step 1: Interpret the problem.**

First, we will determine the fee percentage amount and add that to the initial amount. When calculating a percentage, we multiply the percentage by the given total.

$$\text{Fee Percentage} \times \text{Initial Total} = \text{Fee Percentage Amount}$$

**Step 2: Convert the service fee percent to a decimal.**

In order to change a percent into a decimal, we divide the percent by 100, which is the same as moving the decimal two spots to the left.

$$7\% = 7. \%$$

$$7. \% \rightarrow 0.07$$

**Step 3: Determine the fee amount and find the first total.**

Now that our percent has been turned into a decimal we can multiply:

$$0.07 \times 122.19 = 8.5533$$

\*Note: We will **not** be rounding here, we will round at the end of the problem.

To determine our first total, we add the percentage fee amount to our initial amount.

$$122.19 + 8.5533 = 130.7433$$

**Step 4: Convert the tip percent to a decimal.**

$$15\% = 15. \%$$

$$15. \% \rightarrow 0.15$$

15% as a decimal is 0.15.

**Step 5: Determine the tip percentage amount and find the final total.**

Remember that we are finding the tip based on the **bill** after the service fee, so we will use the total amount calculated in step 3 here.

$$0.15 \times 130.7433 = 19.611495$$

\*Note: We will not be rounding here, we round at the end of the problem.

To determine our final total, we add the tip percentage amount to our first total (130.7433).

$$130.7433 + 19.611495 = 150.354795$$

When a math problem has a final answer that represents a monetary quantity, the final answer must be rounded to the nearest hundredth, unless otherwise directed.

$$150.354795 = \mathbf{\$150.35}$$

The final total of Oscar's order was **\$150.35**.

**28. What is the area of a circle with a radius of 9 in? (Use 3.14 for  $\pi$ )**

- a. 127.17 in<sup>2</sup>
- b. **254.34 in<sup>2</sup>**
- c. 56.52 in<sup>2</sup>
- d. 85.46 in<sup>2</sup>

Remember the **formula for the area of a circle**:

$$\pi r^2 = \text{area}$$

**OR**

$$\pi \times r \times r = \text{area}$$

**Step 1: Substitute our numbers into the equation.**

$$3.14 \times 9 \text{ in} \times 9 \text{ in}$$

**Step 2: Solve.**

First, we will multiply the first two numbers.

$$3.14 \times 9 = 28.26 \text{ in}$$

Now we multiply the 28.26 and the second 9.

$$28.26 \times 9 = 254.34 \text{ in}^2$$

The area is **254.34 in<sup>2</sup>**

**29. An emergency room patient's heart rate dropped 30% to 63 beats per minute. What was the patient's heart rate prior to the drop in beats per minute?**

- a. **90**
- b. 210
- c. 44
- d. 19

**Step 1: Interpret the problem.**

Given the heart rate dropped by 30%, we know:

$$100\% - 30\% = 70\%$$

The remaining heart rate percent is 70%.

**Step 2: Turn the percent into a decimal.**

To turn a percentage into a decimal, we divide by 100, which is the same as moving the decimal point two spaces to the left.

$$70\% = 70. \%$$

$$70. \% \div 100 = .70$$

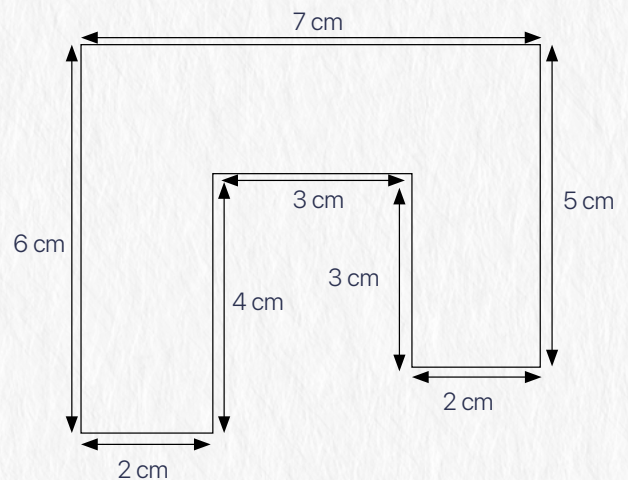
$$.70 = .7$$

**Step 3: Determine the original heart rate.**

$$\text{Current Heart Rate} \div \text{Decimal} = \text{Original Heart Rate}$$

$$63 \div .7 = 90$$

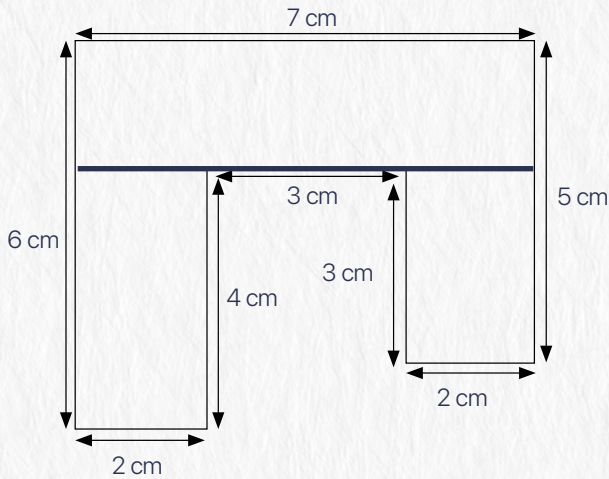
The patient's heart rate before the drop was **90 beats per minute**.

**30. What is the area of the following shape?**

- a. 28 cm<sup>2</sup>
- b. 64 cm<sup>2</sup>
- c. 42 cm<sup>2</sup>
- d. 32 cm<sup>2</sup>

When we have an irregular shape, we need to break down the irregular shape into basic shapes for which we know their area formulas.

**Step 1: Split the irregular shape into two or more basic shapes.**



**Step 2: Find the width of the rectangle on the top.**

$$6 - 4 = 2 \text{ cm}$$

So, the width of the rectangle on the top of the shape is 2 cm.

**Step 3: Find the area of each shape after the split.**

**Area of rectangle on the lower left:**

$$\text{Length} \times \text{width} = \text{area}$$

$$2 \times 4 = 8 \text{ cm}^2$$

The area of this rectangle is 8 cm<sup>2</sup>.

**Area of rectangle on the top:**

$$\text{Length} \times \text{width} = \text{area}$$

$$7 \times 2 = 14 \text{ cm}^2$$

The area of this rectangle is 14 cm<sup>2</sup>.

**Area of rectangle on the lower right:**

$$\text{Length} \times \text{width} = \text{area}$$

$$2 \times 3 = 6 \text{ cm}^2$$

The area of this rectangle is 6 cm<sup>2</sup>.

**Step 4: Add the areas of the three shapes together.**

$$8 \text{ cm}^2 + 14 \text{ cm}^2 + 6 \text{ cm}^2 = 28 \text{ cm}^2$$

The area of this irregular shape is **28 cm<sup>2</sup>**.

**31. An event coordinator has a budget of \$680. If she spent \$75 on balloons and \$65 on invitations, what percent of her budget does she have left?**

- a. 79.4%
- b. 20.6%
- c. 9.6%
- d. 86.7%

**Step 1: Calculate part (non-100%).**

The first step is to identify the amounts needed to be added together to calculate the portion of the budget that has already been spent, which represents the part (non-100%).

$$75 + 65 = 140$$

Making 140 the part (non-100%).

**Step 2: Divide the part (non-100%) by the whole (100%).**

In order to find the percentage, we have to divide the part of the total available amount by the total amount available.

$$140 \div 680 = 0.2058823529$$

We can round this off to the third-place value. Check your answer choices to see if numbers were rounded to a different place value.

$$0.2058823529 \rightarrow 0.206$$

**Step 3: Multiply by 100.**

Now that we have our decimal, we have to turn it into a percent.

$$0.206 \times 100 = \mathbf{20.6\%}$$

This tells us how much of the budget has already been spent. Finally, we have to find the percentage of what she has left.

**Step 4: Subtract budget spent from total budget.**

The event coordinator spent **20.6%** of her budget. In order to find the percentage that is **left** we will subtract the percentage she spent from 100%.

$$100\% - 20.6\% = \mathbf{79.4\%}$$

The event coordinator has **79.4%** of her budget left.

**32. Jessica is wrapping a gift in a rectangular box with gift wrapping paper for a birthday party. The box is 11 inches long, 8 inches wide, and 5 inches tall. How much gift wrapping paper will she need to wrap the box?**

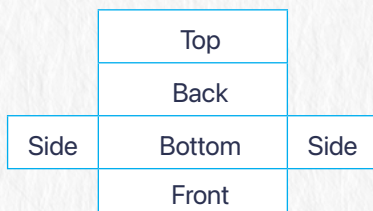
- a. 150 in<sup>2</sup>
- b. 440 in<sup>2</sup>
- c. 183 in<sup>2</sup>
- d. **366 in<sup>2</sup>**

**Step 1: Interpret the problem.**

We need to find the surface area of the box.

**Step 2: Break your shape down into its net.**

When we break down a rectangular prism into its net, we have six rectangles, a top and a bottom, a front, and a back, and two sides.



**Step 3: Determine how to find the area of each part of the net.**

Let's first find the area of the top and the bottom rectangles of the prism.

$$\text{length} \times \text{width} = \text{area}$$

The length of the top rectangle is 11 in and the width is 8 in.

$$11 \text{ in} \times 8 \text{ in} = 88 \text{ in}^2$$

The area of the top and bottom rectangles are **88 in<sup>2</sup> each**.

**Now we find the area of the front and back rectangles.**

The length of the front rectangle is 11 in and the width is 5 in.

$$11 \text{ in} \times 5 \text{ in} = 55 \text{ in}^2$$

The area of the front and back rectangles are **55 in<sup>2</sup> each**.

**Lastly we find the area of the two side rectangles.**

The length of a side rectangle is 8 in and the width is 5 in.

$$8 \text{ in} \times 5 \text{ in} = 40 \text{ in}^2$$

The area of each of the side rectangles is **40 in<sup>2</sup>**.

**Step 4: Add up the areas of each part of the net.**

$$2 \times \text{top area} + 2 \times \text{front area} + 2 \times \text{side area} = \text{surface area}$$

$$2 \times 88 \text{ in}^2 + 2 \times 55 \text{ in}^2 + 2 \times 40 \text{ in}^2$$

$$(2 \times 88 \text{ in}^2) + (2 \times 55 \text{ in}^2) + (2 \times 40 \text{ in}^2) = 366 \text{ in}^2$$

So, Jessica needs **366 in<sup>2</sup>** of gift wrap paper.

**33. Order from least to greatest:**

$$-\frac{5}{6}; \frac{1}{6}; \frac{1}{2}; -\frac{1}{9}$$

\_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ;

**Step 1: Organize and sort our numbers into groups.**

**Positive Numbers:  $\frac{1}{6}$  and  $\frac{1}{2}$**

Both  $\frac{1}{6}$  and  $\frac{1}{2}$  are greater than any of the negative fractions. We will compare these fractions using common denominators. (Step 2)

**Negative Numbers:  $-\frac{5}{6}$  and  $-\frac{1}{9}$**

These two we will also compare using common denominators. (Step 3)

**Step 2: Compare positive fractions using common denominators or fraction rules.**

**Here we can use the rule:** If two fractions have the same numerator, but different denominators, the fraction with the smaller denominator has the greater value.

**Step 3: Compare negative fractions using common denominators or fraction rules.**

We are comparing the fractions  $\frac{5}{6}$  and  $\frac{1}{9}$

Let's first find the Least Common Multiple of 6 and 9:

**Multiples of 6:** 6, 12, **18**, 24

**Multiples of 9:** 9, **18**, 27, 36, 45

**LCM: 18**

Now we create equivalent fractions with 18 as the new denominator.

First Up:  $\frac{5}{6}$

$$\frac{(5 \times 3)}{(6 \times 3)} = \frac{15}{18}$$

Second Up:  $\frac{1}{9}$

$$\frac{(1 \times 2)}{(9 \times 2)} = \frac{2}{18}$$

Since -15 is further from 0 than -2,  $-\frac{15}{18}$  is smaller than  $-\frac{2}{18}$ .

**Step 4: Organize our fractions from least to greatest.**

$$-\frac{5}{6} \quad -\frac{1}{9} \quad \frac{1}{6} \quad \frac{1}{2}$$

**34. Carrie buys a can of paint from the local hardware store. The radius of the paint can is 4 inches and it is 11 inches tall. If the paint can is only one-half full, what is the volume of paint inside it?**

$$V = \pi \times r^2 \times h$$

Use 3.14 for  $\pi$ .

- a. 376.8 in<sup>2</sup>
- b. **276.32 in<sup>3</sup>**
- c. 216.9112 in<sup>2</sup>
- d. 552.64 in<sup>3</sup>

**Step 1: Interpret the problem.**

We need to find the total volume of the paint can, and then divide it by 2.

**Step 2: Substitute the numbers into the equation.**

$$\begin{aligned} \text{Volume} &= \pi \times r^2 \times h \\ 3.14 \times (4 \text{ in}^2) \times 11 \text{ in} \end{aligned}$$

**Step 3: Solve using the order of operations.**

$$\begin{aligned} 3.14 \times (4 \text{ in})^2 \times 11 \text{ in} \\ 3.14 \times 16 \text{ in}^2 \times 11 \text{ in} = 552.64 \text{ in}^3 \end{aligned}$$

**Step 4: Divide the volume by 2 to find the amount of paint.**

$$552.64 \text{ in}^3 \div 2 = 276.32 \text{ in}^3$$

The volume of paint inside the can when it is one-half full is **276.32 in<sup>3</sup>**.

**35. Order from least to greatest:**

2.4, -2 <sup>5</sup>/<sub>6</sub>, <sup>12</sup>/<sub>15</sub>, <sup>17</sup>/<sub>8</sub>, -217%

\_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_

**Step 1: Turn all numbers into decimals.**

By turning all numbers into decimals, we can easily compare the numbers to one another. Just remember to keep track of each decimal in its original form.

To change -2 <sup>5</sup>/<sub>6</sub>, we remember the whole number, -2, remains the same and we find the decimal equivalent of <sup>5</sup>/<sub>6</sub>,

$$5 \div 6 = -0.8333\dots$$

Because the number is a repeating decimal, we can round to -2.833.

Let's change -217%.

$$-217\% \div 100 = -2.17$$

Now we will change the positive numbers. 2.4 is already in decimal form so it remains as is.

$$^{12}/_{15} = 0.8$$

$$^{17}/_{8} = 2.125$$

**Step 2: Compare our decimals.**

We now can line up our numbers by their decimal points. We can also add in any extra zeros to make it easier to visually compare.

Negative Rational Numbers	Positive Rational Numbers
-2.833	<b>0.800</b>
-2.170	<b>2.125</b>
	<b>2.400</b>

**Step 3: Order our decimals.**

We now can line up our numbers by their decimal points. We can also add in any extra zeros to make it easier to visually compare.

$$\text{Least to greatest: } -2.833 < -2.17 < 0.8 < 2.125 < 2.4$$

Rewrite our decimals using how they looked originally.

$$-2.833 = -2 \frac{5}{6}$$

$$-2.17 = -217\%$$

$$0.8 = ^{12}/_{15}$$

$$2.125 = ^{17}/_{8}$$

$$2.4 = 2.4$$

The order of the numbers from least to greatest is **-2 <sup>5</sup>/<sub>6</sub>, -217%, <sup>12</sup>/<sub>15</sub>, <sup>17</sup>/<sub>8</sub>, 2.4.**

**36. 855 m is equal to \_\_\_\_\_ km.**

\_\_\_\_\_

Below is a chart of the metric prefixes most commonly used from smallest (milli) to largest (kilo).

MILLI	CENTI	DECI	UNITS	DEKA	HECTO	KILO
(m)	(c)	(d)	(meter, liter, or gram)	(da)	(h)	(k)

**The Rules:**

For every step you move to the right, you divide your number by that power of ten.

For every step you move to the left, you multiply your number by that power of ten.

**Step 1: Determine how you are moving.**

In this case, we are moving from UNITS to KILO which is THREE steps to the RIGHT. Since we are moving from a smaller unit to a larger unit, we are going to divide.

Also, because we are moving THREE steps to the right, we will divide by 1,000.

**Step 2: Set up your problem and solve.**

$$855 \text{ m} \div 1,000 \text{ km/m} = \mathbf{0.855 \text{ km}}$$

**37. What is the largest number that still rounds to 154?**

- a. 154.52
- b. **154.23**
- c. 153.62
- d. 153.61

**Step 1: Remember your rounding rules.****153.62**

153.62 does round to 154, but must be compared to the other answer choices to see if it is the largest number that rounds to 154.

**154.52**

154.52 rounds to 155 not 154 so, this answer choice is not correct.

**153.61**

153.61 does round to 154 but must be compared to the other answer choices to see if it is the largest number that rounds to 154.

**154.23**

154.23 does round to 154 but must be compared to the other answer choices to see if it is the largest number that rounds to 154.

**Step 2: Compare the decimals that Round to the Correct Value**

$$153.62 < 153.61 < 154.23$$

Therefore, **154.23** is the correct answer.

**38. Ivy spends \$5.85 for 3 pounds of fruit and \$9.00 for 2.7 pounds of vegetables. Approximate the average cost per pound Ivy spent on the fruits and vegetables.**

- a. **\$2.50**
- b. \$6.60
- c. \$5.00
- d. \$10.00

**Step 1: Interpret the question.**

The total cost of the fruits and vegetables will be the sum of their costs.

**Total cost:**

$$5.85 + 9$$

The total number of pounds of fruits and vegetables will be the sum of their weights.

**Total number of pounds:**

$$3 + 2.7$$

**Average cost per pound = (Total cost) ÷ (Total number of pounds)**

**Step 2: Round our numbers.**

\$5.85 will be rounded to the nearest ones place.

$$\underline{5}.85 \rightarrow 6$$

2.7 will also be rounded to the nearest ones place.

$$\underline{2}.7 \rightarrow 3$$

**Step 3: Solve.**

First, find the total cost of the fruits and vegetables.

$$6 + 9 = 15$$

Next, find the total weight of the fruits and vegetables.

$$3 + 3 = 6$$

So, the total weight of the fruits and vegetables is 6 pounds.

Finally, we get the average cost per pound of the fruits and vegetables by dividing the total cost by the number of pounds.

$$15 \div 6 = 2.5$$

So, the average cost per pound for the fruits and vegetables is **\$2.50**.





# TEAS<sup>®</sup> 7

## Science Practice Test

# Questions:

1. Which of the following correctly describes the law of segregation?

- a. It states that the segregation of the dominant trait in the phenotype happens in the hybrid offspring.
- b. It states that allele pairs segregate during gametogenesis and reunite randomly during the fertilization process.
- c. It states that the hereditary factors segregate independently of one another during gametogenesis.
- d. It states that all the genetic factors are present in the DNA.

2. The genotypes of the parents in the Punnett square below can be described as \_\_\_\_\_.

	R	r
R	RR	Rr
R	RR	Rr

- a. Homozygous dominant and homozygous recessive
- b. Heterozygous dominant and homozygous dominant
- c. Heterozygous recessive and heterozygous dominant
- d. Heterozygous recessive and homozygous recessive

3. Which of these is a function of a ribosome?

- a. Ribosomes can decode mRNA and assemble amino acids for protein synthesis.
- b. Ribosomes move along the length of the amino acid chain to introduce peptide bonds in between them.
- c. Ribosomes carry the codons required for protein synthesis.
- d. Ribosomes transfer mRNA from the nucleus to the cytoplasm.

4. The number of protons is the same as?

- a. The number of isotopes for the element
- b. The nuclear force
- c. The angular momentum
- d. The atomic number

5. Which of the following statements is true about protons?

- a. They have a negative charge.
- b. They have more mass than a neutron.
- c. The number of protons in the nucleus is the defining property of an element.
- d. Some atoms have no protons.

6. A lipid or fat molecule can be broken down into fatty acids and \_\_\_\_\_.

Write your response below.

\_\_\_\_\_.

7. Which of the following prefixes would likely be the most appropriate for measuring the weight of a 2,500 g kitten?

- a. Kilo
- b. Nano
- c. Giga
- d. Pico

8. Which of these bonds would we see between nitrogenous bases?

- a. Ionic bonds
- b. Sulphide bonds
- c. Hydrogen bonds
- d. Polar bonds

9. Which of the following is the most accurate description of the link between chromosomes and DNA?

- a. The DNA sequence is made up of chromosomes, which include numerous genes.
- b. Chromosomes are the building blocks of DNA.
- c. Chromosomes include numerous genes, each of which is made up of a DNA sequence.
- d. Genes contain chromosomes that are made up of DNA.

**10. Which of the following statements about diffusion is true?**

Please select all that apply.

- a. Diffusion is the net movement of molecules or atoms from a region of higher concentration to a region of lower concentration.
- b. Diffusion is an active process.
- c. Osmosis is an example of diffusion.
- d. Gas exchange in tissues is an example of diffusion.
- e. Diffusion is the net movement of molecules or atoms from a region of lower concentration to a region of higher concentration.
- f. Diffusion is a passive process.

**11. Which of the following hormones is not increased in plasma during dehydration?**

- a. Renin
- b. Aldosterone
- c. Erythropoietin
- d. Antidiuretic hormone

**12. In which segment of the nephron is glucose reabsorbed?**

- a. Proximal convoluted tubule
- b. Collecting duct
- c. Distal convoluted tubule
- d. Loop of henle

**13. What is the correct sequence in which inhaled air passes through the respiratory tract?**

Write the following in the correct order.

Bronchioles	
Larynx	
Bronchi	
Trachea	
Pharynx	
Nasal cavity	

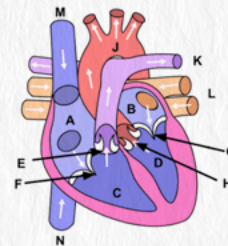
**14. Which of the following is a hypothesis?**

- a. Five different breeds of dogs are at the dog park.
- b. One liter of water was added to a reaction.
- c. When I added fertilizer to my plants, they grew more quickly.
- d. If a student gets more sleep, they will get a higher test score.

**15. Which of the following descriptions is correct?**

- a. Solid: no constant volume and no constant shape
- b. Liquid: no definite volume and constant shape
- c. Gas: no definite volume and no definite shape
- d. Gas: constant volume and a definite shape

**16. Using the provided image, choose the anatomical structure designated by letter B.**



- a. Right ventricle
- b. Right atrium
- c. Left ventricle
- d. Left atrium

**17. Balance the following chemical equation:**



- a. CH<sub>4</sub> + 4 Cl<sub>2</sub> → CCl<sub>4</sub> + 4 HCl
- b. 2 CH<sub>4</sub> + 2 Cl<sub>2</sub> → 2 CCl<sub>4</sub> + 2 HCl
- c. CH<sub>4</sub> + Cl<sub>2</sub> → CCl<sub>4</sub> + HCl
- d. 2 CH<sub>4</sub> + Cl<sub>2</sub> → 2 CCl<sub>4</sub> + HCl

**18. The \_\_\_\_\_ is the blood vessel that carries oxygen-depleted blood away from the heart.**

Write the correct response below.

\_\_\_\_\_

**19. Which of the following statements is true about viruses?**

- a. All viruses only have RNA as their genetic material.
- b. All viruses only have DNA as their genetic material.
- c. Viruses have a mix of both DNA and RNA components.
- d. Viruses will have either DNA and RNA as their genetic material, but not both.

**20. Which of the following structures is correctly paired with its function?**

- a. Small intestine: formation of feces
- b. Stomach: absorption of nutrients
- c. Mouth: mechanical digestion
- d. Colon: formation of chyme

**21. The respiratory system is composed of organs that facilitate gas exchange between the blood and the external environment. Which of the following describes the group of organs that function during gas exchange?**

- a. Organ System
- b. Organelle
- c. Organ
- d. Tissue

**22. Which of the following is the process by which gametes divide and produce half the number of chromosomes found in a somatic cell?**

- a. Fertilization
- b. Meiosis
- c. Zygote
- d. Gametes

**23. Which of the following correctly describes the difference between compact bone and spongy bone?**

- a. Compact bone has trabeculae that support the bone marrow.
- b. Compact bone is located more interior than spongy bone.
- c. Spongy bone has more osteons than compact bone.
- d. Spongy bone is lighter than compact bone.

**24. Which of the following correctly describes anatomical position?**

- a. Prone, arms at sides, palms facing anteriorly
- b. Supine, arms at sides, palms facing posteriorly
- c. Seated, arms at sides, palms facing posteriorly
- d. Upright, arms at sides, palms facing anteriorly

**25. Which of the following is a substance that the kidneys remove from the blood during filtration?**

- a. Oxygen
- b. Carbon Dioxide
- c. Red Blood Cells
- d. Salts

**26. Which of the following does not describe the dermis?**

- a. A vascular layer of the skin
- b. The layer of the skin where cells containing the pigment melanin are found
- c. The thickest layer of the skin
- d. The layer of the skin that contains the network of capillaries necessary for thermoregulation

**27. T-lymphocytes mature and become functional in which of the following organs?**

- a. Thymus
- b. Bone marrow
- c. Spleen
- d. Lymph nodes

**28. Which of the following is not true about thermoregulation?**

- a. Cutaneous vasodilation cools the body by allowing heat to be released through skin.
- b. Cutaneous vasoconstriction warms the body by restricting blood flow in the skin.
- c. Sweating facilitates cutaneous vasodilation.
- d. Contraction of arrector pili muscles facilitates vasodilation.

29. Which of the following is correct about muscle contraction?

Please select all that apply.

- a. Muscle contraction requires ATP.
- b. Actin and myosin filaments slide past each other.
- c. Neurotransmitters stimulate muscle contraction.
- d. Actin filaments shorten during contraction.
- e. Myosin filaments shorten during contraction.
- f. Sarcomere shortens during contraction.

30. Which of the following is not true about reproductive hormones?

- a. FSH (follicle-stimulating hormone) stimulates maturation of sperm and ovum.
- b. LH (luteinizing hormone) is produced by the posterior pituitary gland.
- c. LH (luteinizing hormone) stimulates ovulation and production of testosterone.
- d. FSH (follicle-stimulating hormone) is produced by the anterior pituitary gland.

31. Which of the following comparisons between arteries and veins is true?

- a. Veins have valves, and arteries do not.
- b. Veins have thick, muscular walls, while arteries have thin, more compliant walls.
- c. Veins carry freshly oxygenated blood from tissue back to the heart, while arteries carry oxygen-depleted blood away from the heart.
- d. Veins have a smaller diameter than arteries.

32. Melatonin is the hormone that regulates sleep-and-wake rhythm. Which of the following endocrine glands is responsible for producing melatonin?

- a. Hypothalamus
- b. Pituitary
- c. Pineal
- d. Adrenal

33. Which of the following substances would not dissolve in water?

- a.  $C_3H_6$
- b.  $CH_3CH_2OH$
- c.  $CH_3OH$
- d.  $NaCl$

34. Gas exchange between the blood and alveoli would be enhanced by \_\_\_\_\_, but impeded by \_\_\_\_\_.

- a. increased tidal volume; decreased membrane thickness
- b. increased alveolar surface area; increased membrane thickness
- c. decreased respiratory rate; increased tidal volume
- d. decreased membrane thickness; increased alveolar surface area

35. Which of the following is true of insulin and glucagon?

Please select all that apply.

- a. Secretion of insulin and glucagon is regulated by the pituitary gland.
- b. Insulin and glucagon regulate the level of glucose in the blood.
- c. Insulin and glucagon have opposite effects on blood glucose but work together to maintain homeostasis.
- d. Insulin and glucagon have opposite effects on blood calcium levels but work together to maintain homeostasis.
- e. The pancreas secretes insulin and glucagon.
- f. Insulin and glucagon regulate the level of calcium in the blood.

36. The majority of nutrient absorption occurs in the \_\_\_\_\_.

Type your response in the box below.

---

37. Match the following structures to their function.

- Implantation site of a zygote
- Copulatory organ of the female
- Sperm channel from the epididymis to the penis
- External sex organ of a male

Vas deferens: \_\_\_\_\_

Uterus: \_\_\_\_\_

Vagina: \_\_\_\_\_

Penis: \_\_\_\_\_

38. Which of the following causes bone matrix resorption during bone growth and remodeling?

- a. Osteons
- b. Osteocytes
- c. Osteoclasts
- d. Osteoblasts

39. Which of the following antigen-specific immune cells produce cytokines, which facilitate various immune reactions?

- a. Helper T-cell
- b. Cytotoxic T-cell
- c. Macrophage cell
- d. B-cell

40. Which of the following is a function of the epidermis?

Please select all that apply.

- a. It contains many blood vessels that can constrict or dilate for thermoregulation.
- b. It stores fat.
- c. It protects underlying tissues from abrasions.
- d. It functions as a major component of the innate immunity.
- e. It protects underlying tissue from chemicals.
- f. It functions as a major component of the adaptive immune system.

41. Movement of molecules in a substance depends on \_\_\_\_\_ energy.

- a. X-ray
- b. heat
- c. Gamma ray
- d. UV

42. A scientist collected the following set of data to examine the effects of exercise on patients' heart rates.

	Resting heart Rate (bpm)	Mile 1 (bpm)	Mile 2 (bpm)	Mile 3 (bpm)	Average
Patient a	95	155	154	160	156.3
Patient b	75	135	140	132	135.7
Patient c	82	142	165	150	152.3

Patients were tasked with running 1 mile every day for three days in the presence of the scientists. They were required to run the entire mile and were not allowed to walk. At the end of each mile run, the scientists measured the heart rates of the patients. Which of the following conclusions can be drawn from this data?

- a. Running increased the heart rates of the patients.
- b. The patients ran Mile 3 faster than Mile 1.
- c. Patients that ran the mile faster had higher heart rates.
- d. The patients became fitter with each mile run.

43. Which of the following statements is true about hydrogen bonds?

- a. They are considered strong attractive forces.
- b. They result from the attraction between ions that have no charge.
- c. They don't affect the properties of water in any way.
- d. They form between a partial positively charged region on one molecule and the partial negatively charged region on another molecule.

44. Which of the following is the most plausible sequence of events?

- Walk in the woods; stung by bee; given morphine; early death
- Poaching more rhinos; more export rhino horn goods; more goods with a lower economic value; economy boost
- Extensive car use; air pollution; fewer people with asthma; fewer healthcare expenses
- Born into musical family; grows up around music; starts learning guitar; plays concert

45. Which would be the approximate mass of a car?

- 1,800 kg
- 18 kg
- 180 kg
- 180,000 kg

46. The same single-replacement reaction is run in two different beakers. The beakers are labeled as Beaker A and B and are heated to 75°C and 100°C, respectively. If the reactions are run for 15 minutes each, which of the following results would you expect to observe?

- Beaker A produces more product than Beaker B.
- The two beakers produce the same amount of product.
- Beaker B produces more product than Beaker A.
- No products are produced in either beaker.

47. Enzymes are biological catalysts that \_\_\_\_\_.

- Bind to the products
- Are necessary to convert substrate into products
- Use up the substrate molecules in the reaction
- Increase the rate of any given reaction

48. Why are control groups used in experiments?

- To help scientists quickly perform experiments
- To increase the amount of data collected
- To ensure the accuracy of measurements
- To minimize the effect of variables

49. Review the data in this table, and then choose the statement that draws the best conclusion:

Student	Time spent sleeping the night before	Test Score	Student	Time spent sleeping the night before	Test Score
Janet	8.3 hrs	87	Antonio	10 hrs	92
Tyrone	9 hrs	89	Sara	9.4 hrs	91
Scott	6.2 hrs	67	Malcolm	8 hrs	86
Jamilya	7.3 hrs	79	Jose	8.2 hrs	86
Janae	7.5 hrs	80	Lily	6.9 hrs	70

- Hours spent sleeping and score on the test correlate with one another.
- Hours spent sleeping and score on the test correlate negatively with one another.
- There is no correlation between sleep time and test score.
- Amount of time spent sleeping is the cause of what test score was received.

50. Dissolved oxygen (DO) is an important indicator of water quality, and oxygen levels that are too high or too low can harm aquatic ecosystems. A biologist noticed that fish were dying in a local lake and was concerned that the DO levels were too low to support aquatic life due to extremely high temperatures that summer. To measure the DO levels, she brought back several lake water samples to her laboratory to measure the DO concentration as a function of temperature. To do this, she heated several samples of lake water to various temperatures and then measured the DO concentration in each sample. Some samples were kept at the outdoors temperature.

Which of the following is the independent variable?

- Location of the lake
- Volume of water
- Temperature
- Dissolved oxygen concentration

# Answers:

My Total Score \_\_\_\_ / 50

1. B
2. B
3. A
4. D
5. C
6. Glycerol
7. A
8. C
9. C
10. A, C, D, F
11. C
12. A
13.
 

Nasal cavity
Pharynx
Larynx
Trachea
Bronchi
Bronchioles
14. D
15. C
16. D

17. A
18. pulmonary artery
19. D
20. C
21. A
22. B
23. D
24. D
25. D
26. B
27. A
28. D
29. A, B, C, F
30. B
31. A
32. C
33. A
34. B
35. B, C, E

36. small intestine

- |     |  |
|-----|--|
| 37. | Vas deferens: Sperm channel from the epididymis to the penis |
|     | Uterus: Implantation site of a zygote                        |
|     | Vagina: Copulatory organ of the female                       |
|     | Penis: External sex organ of a male                          |

38. C
39. A
40. C, D, E
41. B
42. A
43. D
44. D
45. A
46. C
47. D
48. D
49. A
50. C



# Score Sheet:

**Directions:** Use the score tracker below to mark off which questions you answered correctly and which ones you got wrong. The corresponding skill title is the name of the lesson in our [TEAS 7 Science Course](#). Click on each link to learn more about that topic and continue to practice in order to improve your score in that area.

Question	Correct?	Topic
1		<a href="#">Apply Concepts Underlying Mendel's Laws of Inheritance</a>
2		<a href="#">Apply Concepts Underlying Mendel's Laws of Inheritance</a>
3		<a href="#">Describe Cell Structure, Function, and Organization</a>
4		<a href="#">Recognize Basic Atomic Structure</a>
5		<a href="#">Recognize Basic Atomic Structure</a>
6		<a href="#">Describe the Structure and Function of the Basic Macromolecules in a Biological System</a>
7		<a href="#">Use Basic Scientific Measurements and Measurement Tools</a>
8		<a href="#">Describe the Structure and Function of the Basic Macromolecules in a Biological System</a>
9		<a href="#">Describe the Relationship Between Genetic Material and Protein Structure</a>
10		<a href="#">Understand Properties of Solutions</a>
11		<a href="#">Endocrine System</a>
12		<a href="#">Genitourinary System</a>
13		<a href="#">Respiratory System</a>
14		<a href="#">Apply the Scientific Method to Interpret a Scientific Investigation</a>
15		<a href="#">Explain Physical Properties and Changes of Matter</a>
16		<a href="#">Cardiovascular System</a>
17		<a href="#">Describe Chemical Reactions</a>
18		<a href="#">Cardiovascular System</a>
19		<a href="#">Describe the Role of Microorganisms in Disease</a>
20		<a href="#">Gastrointestinal System</a>
21		<a href="#">Demonstrate Knowledge of the General Orientation of Human Anatomy</a>
22		<a href="#">Reproductive System</a>
23		<a href="#">Skeletal System</a>
24		<a href="#">Demonstrate Knowledge of the General Orientation of Human Anatomy</a>
25		<a href="#">Genitourinary System</a>
26		<a href="#">Integumentary System</a>
27		<a href="#">Immune System</a>
28		<a href="#">Integumentary System</a>
29		<a href="#">Neuromuscular System</a>
30		<a href="#">Reproductive System</a>

Question	Correct?	Topic
31		<a href="#">Cardiovascular System</a>
32		<a href="#">Endocrine System</a>
33		<a href="#">Understand Properties of Solutions</a>
34		<a href="#">Respiratory System</a>
35		<a href="#">Endocrine System</a>
36		<a href="#">Gastrointestinal System</a>
37		<a href="#">Reproductive System</a>
38		<a href="#">Skeletal System</a>
39		<a href="#">Immune System</a>
40		<a href="#">Integumentary System</a>
41		<a href="#">Explain Physical Properties and Changes of Matter</a>
42		<a href="#">Apply Logic and Evidence to a Scientific Explanation</a>
43		<a href="#">Recognize Basic Atomic Structure</a>
44		<a href="#">Predict Relationships Among Events, Objects, and Processes</a>
45		<a href="#">Use Basic Scientific Measurements and Measurement Tools</a>
46		<a href="#">Apply the Scientific Method to Interpret a Scientific Investigation</a>
47		<a href="#">Describe the Structure and Function of the Basic Macromolecules in a Biological System</a>
48		<a href="#">Apply Logic and Evidence to Scientific Explanations</a>
49		<a href="#">Predict Relationships Among Events, Objects, and Processes</a>
50		<a href="#">Apply the Scientific Method to Interpret a Scientific Investigation</a>
Total	__/50	

**Directions:** Use your completed score sheet on the previous page to identify which TEAS® 7 Science topics you should prioritize studying if you have limited time. Each link in the table below takes you directly to the corresponding lesson in our [TEAS 7 Science Course](#), so you can start studying right away!

Section	Topic	Questions	Score
Human Anatomy and Physiology	<a href="#">Demonstrate Knowledge of the General Orientation of Human Anatomy</a>	21, 24	___/2
	<a href="#">Respiratory System</a>	13, 34	___/2
	<a href="#">Cardiovascular System</a>	16, 18, 31	___/3
	<a href="#">Gastrointestinal System</a>	20, 36	___/2
	<a href="#">Neuromuscular System</a>	29	___/1
	<a href="#">Reproductive System</a>	22, 30, 37	___/3
	<a href="#">Integumentary System</a>	26, 28, 40	___/3
	<a href="#">Endocrine System</a>	11, 32, 35	___/3
	<a href="#">Genitourinary System</a>	12, 25	___/2
	<a href="#">Immune System</a>	27, 39	___/2
	<a href="#">Skeletal System</a>	23, 38	___/2
Life and Physical Sciences	<a href="#">Describe Cell Structure, Function, and Organization</a>	3	___/1
	<a href="#">Describe the Relationship Between Genetic Material and Protein Structure</a>	3, 9	___/2
	<a href="#">Apply Concepts Underlying Mendel's Laws of Inheritance</a>	1, 2	___/2
	<a href="#">Describe the Structure and Function of the Basic Macromolecules in a Biological System</a>	6, 8, 47	___/3
	<a href="#">Describe the Role of Microorganisms in Disease</a>	19	___/1
Chemistry	<a href="#">Recognize Basic Atomic Structure</a>	4, 5, 43	___/3
	<a href="#">Explain Physical Properties and Changes of Matter</a>	15, 41	___/2
	<a href="#">Describe Chemical Reactions</a>	17	___/1
	<a href="#">Understand Properties of Solutions</a>	10, 33	___/2
Scientific Reasoning	<a href="#">Use Basic Scientific Measurements and Measurement Tools</a>	7, 45	___/2
	<a href="#">Apply Logic and Evidence to Scientific Explanations</a>	42, 48	___/2
	<a href="#">Predict Relationships Among Events, Objects, and Processes</a>	44, 49	___/2
	<a href="#">Apply the Scientific Method to Interpret a Scientific Investigation</a>	14, 46, 50	___/3

## 1. Which of the following correctly describes the law of segregation?

- It states that the segregation of the dominant trait in the phenotype happens in the hybrid offspring.
- It states that allele pairs segregate during gametogenesis and reunite randomly during the fertilization process.**
- It states that the hereditary factors segregate independently of one another during gametogenesis.
- It states that all the genetic factors are present in the DNA.

**It states that allele pairs segregate during gametogenesis and reunite randomly during the fertilization process** is the correct answer.

The **law of segregation** states that each pair of alleles segregate randomly during gametogenesis (gamete formation). This means that each gamete (sex cell) receives one copy of a gene (an allele). They later reunite or combine randomly during fertilization. This way, the offspring acquires one allele from each of the parents.

The **law of dominance** states that the offspring will always display the dominant trait in the phenotype by suppressing the recessive trait.

The **law of independent assortment** states that the traits inherited by the offspring are independent of each other. Two or more traits do not influence one another.

The **law of segregation** does **not** state anything about storing genetic information in the DNA.

## 2. The genotypes of the parents in the Punnett square below can be described as \_\_\_\_\_.

	R	r
R	RR	Rr
R	RR	Rr

- Homozygous dominant and homozygous recessive
- Heterozygous dominant and homozygous dominant**
- Heterozygous recessive and heterozygous dominant
- Heterozygous recessive and homozygous recessive

**Heterozygous dominant and homozygous dominant** is the correct answer. The parents' genotypes are **heterozygous dominant** (Rr) and **homozygous dominant** (RR). We can see this by going across the top (Rr) and down the side (RR). Remember that heterozygous means the offspring has a combination of different alleles, whereas homozygous means that they only have copies of the same exact allele.

The genotype contains all **dominant** alleles. **Homozygous dominant** (RR) and **heterozygous dominant** (Rr) suppress the activity of the r allele. Therefore, none of the possible genetic combinations would result in a recessive pairing.

There are no **homozygous recessive** alleles in both parents.

One of the parents shows the presence of **homozygous dominant** alleles but the other one does **not** contain **homozygous recessive** alleles. This means that each possible cross will always contain at least one dominant allele, so the dominant trait will be expressed in all the offspring.

## 3. Which of these is a function of a ribosome?

- Ribosomes can decode mRNA and assemble amino acids for protein synthesis.**
- Ribosomes move along the length of the amino acid chain to introduce peptide bonds in between them.
- Ribosomes carry the codons required for protein synthesis.
- Ribosomes transfer mRNA from the nucleus to the cytoplasm.

**Ribosomes can decode mRNA and assemble amino acids for protein synthesis** is the correct answer.

**Ribosomal units** can decode the **codons** on mRNA and assemble amino acids with the help of tRNA for **translation**.

**Codons** are contained within the mRNA strand, not on or inside the ribosomes.

**Ribosomes** do **not** move along the length of an amino acid chain, they create one. They move along the mRNA strand to decode it, which then directs the formation of the complementary amino acid chain.

The transfer of mRNA from the nucleus to the cytoplasm does not occur with the help of tRNA.

**4. The number of protons is the same as?**

- a. The number of isotopes for the element
- b. The nuclear force
- c. The angular momentum
- d. The atomic number**

The number of protons in the nucleus of an atom is known as **the atomic number**, which determines the chemical element to which the atom belongs.

All atoms of a given element are not necessarily identical. For example, elements may have isotopes, which are atoms of the same element with different numbers of neutrons. The number of possible isotopes is not connected to the number of protons in an atom.

The number of protons in the nucleus is the defining property of an element, and is referred to as the atomic number.

The nuclear force is a force that acts between the protons and neutrons of atoms.

**5. Which of the following statements is true about protons?**

- a. They have a negative charge.
- b. They have more mass than a neutron.
- c. The number of protons in the nucleus is the defining property of an element.**
- d. Some atoms have no protons.

A **proton** is a subatomic particle that has a charge of +1. Every atom has at least one proton in its nucleus. The number of protons in the nucleus is the defining property of an element and is referred to as the element's **atomic number**. For example, any atom with one proton must be hydrogen; any atom with six protons must be carbon.

**6. A lipid or fat molecule can be broken down into fatty acids and \_\_\_\_\_.**

Write your response below.

\_\_\_\_\_.

**Glycerol** is the correct answer.

**Glycerol** and **fatty acids** are the monomers of lipid or fat molecules.

**7. Which of the following prefixes would likely be the most appropriate for measuring the weight of a 2,500 g kitten?**

- a. Kilo**
- b. Nano
- c. Giga
- d. Pico

The **purpose of scientific notations and prefixes is to avoid writing extremely long numbers.**

So, the correct answer to this question would be whichever option resulted in the smallest number of zeros. In kilograms, the mass of the kitten is 2.5 kg. If it was written as gigagrams, it would be 0.0000025 gigagrams, and in nanograms, it is 2,500,000,000,000 ng. In picograms, it would be 2,500,000,000,000,000. As you can see, kg results in the fewest digits, so it is the most appropriate prefix to use here.

**8. Which of these bonds would we see between nitrogenous bases?**

- a. Ionic bonds
- b. Sulphide bonds
- c. Hydrogen bonds**
- d. Polar bonds

**Hydrogen bonds** is the correct answer.

Between nitrogenous bases, **hydrogen bonds** are seen since this bond is easy to break, which is needed during the processes of **replication** and **transcription**.

**Ionic bonds** are seen between ions. Nitrogenous bases are not ions.

Nitrogenous bases do **not** form **sulfide bonds**.

Nitrogenous bases are **not** polar in nature and do **not** form **polar bonds**.

**9. Which of the following is the most accurate description of the link between chromosomes and DNA?**

- a. The DNA sequence is made up of chromosomes, which include numerous genes.
- b. Chromosomes are the building blocks of DNA.
- c. Chromosomes include numerous genes, each of which is made up of a DNA sequence.**
- d. Genes contain chromosomes that are made up of DNA.

**Chromosomes include numerous genes, each of which is made up of a DNA sequence** is the correct answer.

**Chromosomes** carry genetic information in the form of DNA. Each gene is formed of sequences of DNA and carries information for characteristics of organisms.

A **chromosome** is made up of DNA and protein, so chromosomes **cannot** be considered the building blocks of DNA.

DNA is **not** formed by a sequence of **chromosomes**. Chromosomes are made up of DNA.

**Chromosomes** contain **genes**. Genes do **not** contain chromosomes.

**10. Which of the following statements about diffusion is true?**

Please select all that apply.

- a. **Diffusion is the net movement of molecules or atoms from a region of higher concentration to a region of lower concentration.**
- b. Diffusion is an active process.
- c. **Osmosis is an example of diffusion.**
- d. **Gas exchange in tissues is an example of diffusion.**
- e. Diffusion is the net movement of molecules or atoms from a region of lower concentration to a region of higher concentration.
- f. **Diffusion is a passive process.**

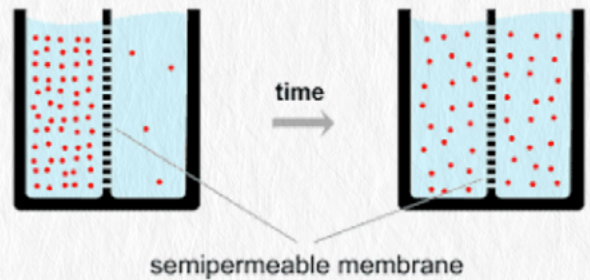
**Answer:** Diffusion is the net movement of molecules or atoms from a region of higher concentration to a region of lower concentration

**Diffusion** is a **passive movement** (meaning that no additional energy is needed to facilitate the movement) **of particles** (atoms, ions or molecules) **from a region in which they are in higher concentration** to regions of lower concentration. This process continues until the **concentration of substances is uniform (equivalent) throughout**.

Gas exchange for respiration is an example of diffusion — oxygen from blood to tissue cells, carbon dioxide in the opposite direction.

Osmosis is also an example of diffusion — diffusion of water through a semipermeable membrane.

You may use the diagram below as a visual reference for the process of diffusion.



**11. Which of the following hormones is not increased in plasma during dehydration?**

- a. Renin
- b. Aldosterone
- c. **Erythropoietin**
- d. Antidiuretic hormone

During dehydration, secretions of **antidiuretic hormone, renin, and aldosterone** are increased in order to prevent further loss of water in the urine.

**Erythropoietin** is produced in the kidney in response to low levels of oxygen (hypoxia) in order to stimulate production of red blood cells.

**12. In which segment of the nephron is glucose reabsorbed?**

- a. **Proximal convoluted tubule**
- b. Collecting duct
- c. Distal convoluted tubule
- d. Loop of henle

Glucose, amino acids, and the majority of electrolytes and water are reabsorbed in the proximal convoluted tubules via facilitated diffusion and active transport.

**13. What is the correct sequence in which inhaled air passes through the respiratory tract?**

Write the following in the correct order.

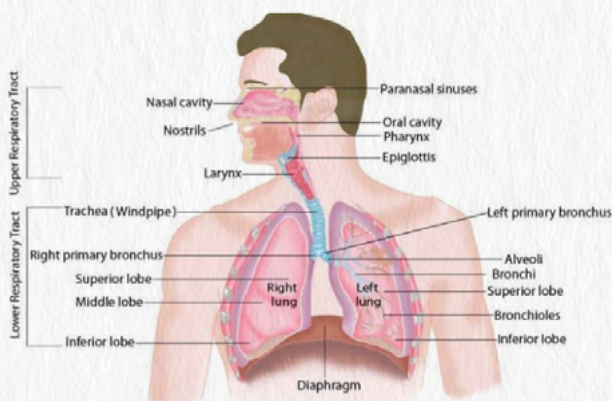
Bronchioles	
Larynx	
Bronchi	
Trachea	
Pharynx	
Nasal cavity	

**Answer:**

<b>Nasal cavity</b>
<b>Pharynx</b>
<b>Larynx</b>
<b>Trachea</b>
<b>Bronchi</b>
<b>Bronchioles</b>

When inhaling, air is taken in through the mouth and nose, and then through the **larynx** and **pharynx**. These passageways warm the air and prepare it for gas exchange. The air continues on through the **trachea**, commonly referred to as the “windpipe”. The **trachea** then splits into a right and left **bronchi**, with each side dividing further into smaller **bronchioles**. While some **bronchioles** may directly be involved in gas exchange, the majority of them are part of the conducting airway, which simply moves air through the respiratory system to get them to the alveoli where most of the gas exchange occurs.

You may use the diagram below as a visual reference for the structures of the respiratory system.



**14. Which of the following is a hypothesis?**

- a. Five different breeds of dogs are at the dog park.
- b. One liter of water was added to a reaction.
- c. When I added fertilizer to my plants, they grew more quickly.
- d. If a student gets more sleep, they will get a higher test score.**

**Answer: If a student gets more sleep, they will get a higher test score.**

A **hypothesis is an explanation for observed phenomena**. The other options are merely observations from which hypotheses could be constructed.

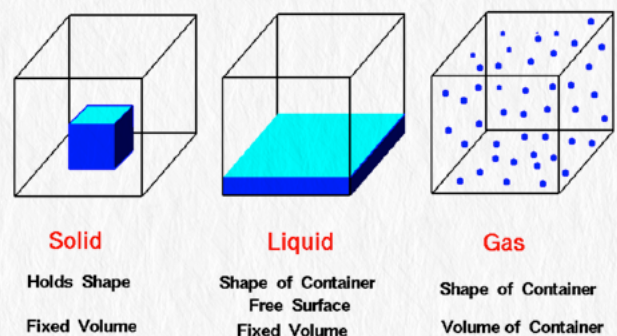
**15. Which of the following descriptions is correct?**

- a. Solid: no constant volume and no constant shape
- b. Liquid: no definite volume and constant shape
- c. Gas: no definite volume and no definite shape**
- d. Gas: constant volume and a definite shape

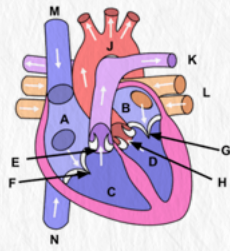
A **gas** is a substance with **no definite volume and no definite shape**. Solids and liquids have volumes that do not change easily.

A **solid** has a **definite shape and volume**. There are two kinds of solids—crystalline and amorphous.

**Liquids** can occupy whatever shape their container has, so they **do not have a fixed shape**. Because the particles in liquids are very close together (barely further apart than in solids) liquids do not easily compress, so their **volume is fixed**.

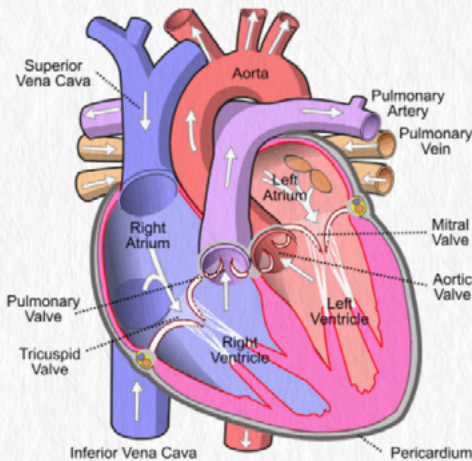


16. Using the provided image, choose the anatomical structure designated by letter B.



- a. Right ventricle
- b. Right atrium
- c. Left ventricle
- d. **Left atrium**

Use the diagram of the heart below as a visual reference for all of its structures.

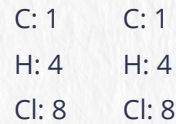
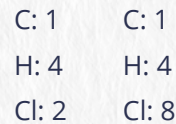
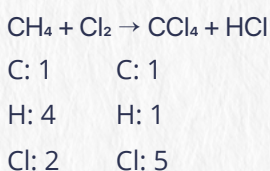


17. Balance the following chemical equation:



- a.  **$\text{CH}_4 + 4 \text{Cl}_2 \rightarrow \text{CCl}_4 + 4 \text{HCl}$**
- b.  $2 \text{CH}_4 + 2 \text{Cl}_2 \rightarrow 2 \text{CCl}_4 + 2 \text{HCl}$
- c.  $\text{CH}_4 + \text{Cl}_2 \rightarrow \text{CCl}_4 + \text{HCl}$
- d.  $2 \text{CH}_4 + \text{Cl}_2 \rightarrow 2 \text{CCl}_4 + \text{HCl}$

To balance equations, it is helpful to write down the number of atoms of each element present in both the reactants and products. Change the coefficients of the reactants and products until the same number of atoms of each element is present on both sides of the reaction arrow.



18. The \_\_\_\_\_ is the blood vessel that carries oxygen depleted blood away from the heart.

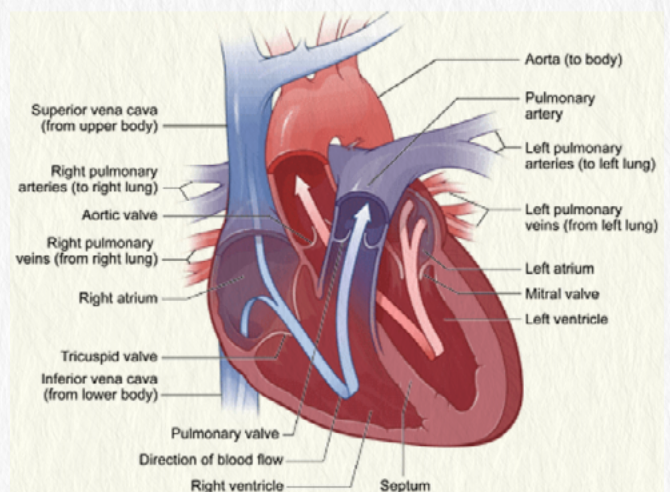
Write the correct response below.

**Answer: pulmonary artery**

The **pulmonary artery carries oxygen depleted blood from the right ventricle to the lungs, where it can pick up oxygen.** This is contrary to most arteries, which typically carry oxygen-rich blood. Once the blood is oxygenated in the lungs, it returns to the heart at the left atrium through the pulmonary vein.

Once blood has been oxygenated and returns to the left side of the heart, it can be ejected by the left ventricle throughout the body via the aorta.

You may use the diagram below as a visual reference for the structure of the heart.





19. Which of the following statements is true about viruses?

- a. All viruses only have RNA as their genetic material.
- b. All viruses only have DNA as their genetic material.
- c. Viruses have a mix of both DNA and RNA components.
- d. **Viruses will have either DNA and RNA as their genetic material, but not both.**

**Answer: Viruses will have either DNA and RNA as their genetic material, but not both.**

**Viruses** are unique in that they are not considered to be living things. This is because although they have genetic material, they do not have any of the cellular machinery to reproduce on their own.

Viruses can carry either DNA or RNA. They do not have both.

Viruses invade living cells and use that cell's machinery to replicate their genetic material and create proteins. This is how viruses cause diseases like the flu, measles, and HIV.

20. Which of the following structures is correctly paired with its function?

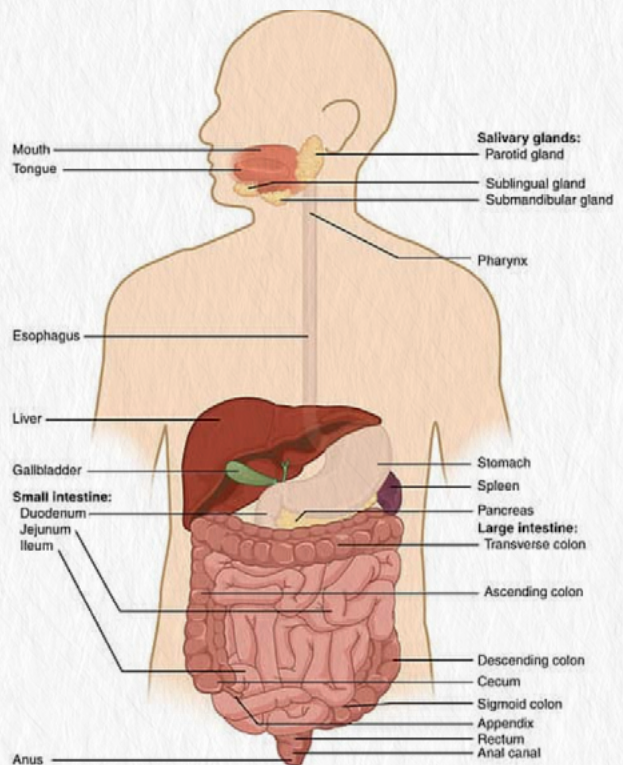
- a. Small intestine: formation of feces
- b. Stomach: absorption of nutrients
- c. **Mouth: mechanical digestion**
- d. Colon: formation of chyme

**Mechanical digestion (i.e. chewing) and chemical breakdown begins in the mouth.**

The **stomach** is responsible for **chemical digestion**. As food contents enter the stomach, it mixes with digestive enzymes and hydrochloric acid to break down food. The muscular contractions, or segmentation, that the stomach muscles produce helps to move the food around and ensure it thoroughly mixes with the chemicals to produce chyme.

**Nutrient absorption** does not occur until the food particles are small enough for absorption and this happens in the **small intestine** (duodenum, jejunum, and ileum). Water is also reabsorbed in the small intestine.

The **colon** is a segment of the large intestine which is responsible for the **formation of feces**. Reabsorption of water and some electrolytes also occurs here.



21. The respiratory system is composed of organs that facilitate gas exchange between the blood and the external environment. Which of the following describes the group of organs that function during gas exchange?

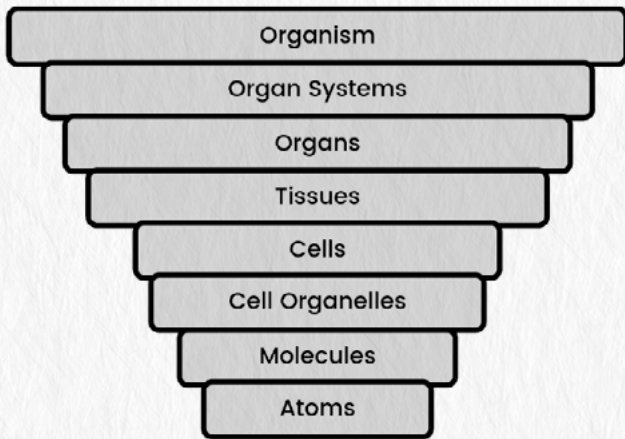
- a. **Organ System**
- b. Organelle
- c. Organ
- d. Tissue

**Tissues** are a collection of specialized cells that perform a specific functions (e.g. protection, support, nerve conduction and movement).

A group of tissues that has a specialized function is referred to as an **organ**.

A group of organs that work together to perform several related functions is an **organ system**.

Below is a model representing the hierarchy of the structure of the human body:



22. Which of the following is the process by which gametes divide and produce half the number of chromosomes found in a somatic cell?

- a. Fertilization
- b. **Meiosis**
- c. Zygote
- d. Gametes

**Meiosis** is the process by which gametes divide and produce half the number of chromosomes found in a somatic cell (a body cell). During meiosis, the cells divide twice instead of once. This results in the daughter cells (the gametes) having half of the chromosomes you would find in a somatic cell, which only undergoes one division during mitosis.

The second division is necessary for gametes, since when an egg is fertilized, the chromosomes from each gamete are combined to form a zygote.

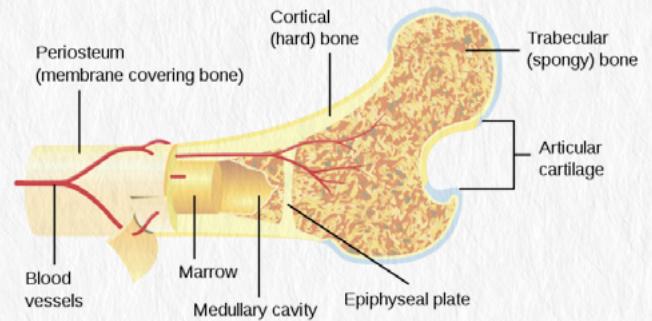
**Gametes** are the male and female sex cell which contain half set of chromosomes.

**Fertilization** is the process of union of male and female gametes which result to a fertilized egg, or **zygote**, which contains a full set of chromosomes.

23. Which of the following correctly describes the difference between compact bone and spongy bone?

- a. Compact bone has trabeculae that support the bone marrow.
- b. Compact bone is located more interior than spongy bone.
- c. Spongy bone has more osteons than compact bone.
- d. **Spongy bone is lighter than compact bone.**

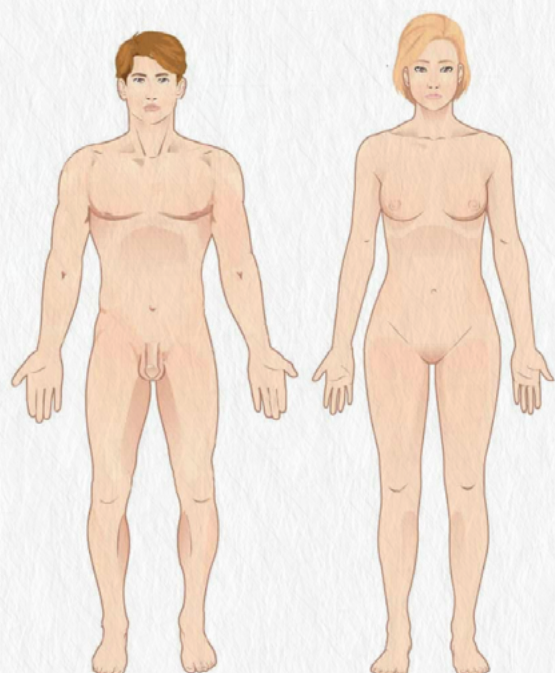
**Compact bone** is composed of **repeating units of osteons** and is the **strongest form of bone tissue**. On the contrary, **spongy bone is lighter than compact bone tissue** and is **always located on the interior of the bone**. Rather than osteons, spongy bone is also made of thin columns of trabeculae which cover and protect the bone marrow.



24. Which of the following correctly describes anatomical position?

- a. Prone, arms at sides, palms facing anteriorly
- b. Supine, arms at sides, palms facing posteriorly
- c. Seated, arms at sides, palms facing posteriorly
- d. **Upright, arms at sides, palms facing anteriorly**

Anatomical position is described as standing erect, arms at sides, face and palms are facing anteriorly (facing to the front).



25. Which of the following is a substance that the kidneys remove from the blood during filtration?

- a. Oxygen
- b. Carbon Dioxide
- c. Red Blood Cells
- d. Salts

The kidneys filter waste from the blood, including **salts**. They do not filter gases out of the blood, nor do they filter out cells.

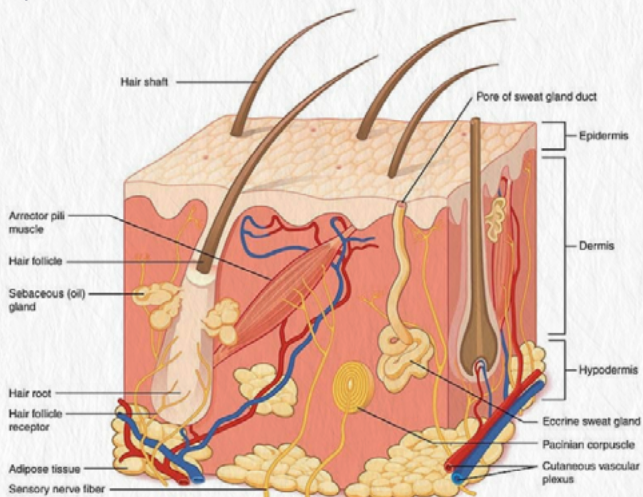
26. Which of the following does not describe the dermis?

- a. A vascular layer of the skin
- b. The layer of the skin where cells containing the pigment melanin are found
- c. The thickest layer of the skin
- d. The layer of the skin that contains the network of capillaries necessary for thermoregulation

The **dermis** is the **thickest layer of the skin**. It is highly vascular (has many blood vessels), as it has to **supply oxygen and nutrients to the epidermis**, which is avascular (lacking blood vessels). The dermis also contains the network of capillaries necessary for thermoregulation.

The layer of the skin where cells containing the pigment melanin are found is the epidermis.

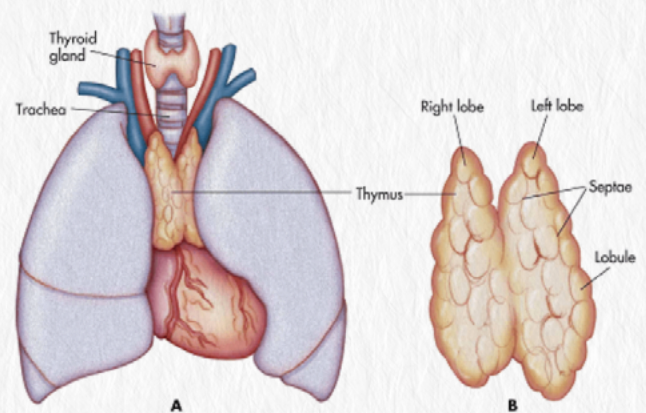
Please see the diagram below as a visual reference for the anatomy of the skin referenced in the question above.



27. T-lymphocytes mature and become functional in which of the following organs?

- a. Thymus
- b. Bone marrow
- c. Spleen
- d. Lymph nodes

Lymphocytes are produced in the bone marrow, but mature and become functional in two primary lymphoid organs. B-lymphocytes differentiate and mature in the bone marrow, while T-lymphocytes become functional in the Thymus.



28. Which of the following is not true about thermoregulation?

- a. Cutaneous vasodilation cools the body by allowing heat to be released through skin.
- b. Cutaneous vasoconstriction warms the body by restricting blood flow in the skin.
- c. Sweating facilitates cutaneous vasodilation.
- d. Contraction of arrector pili muscles facilitates vasodilation.

**Contraction** of arrector pili muscle **facilitates cutaneous vasoconstriction** (constriction of the blood vessels), while **relaxation facilitates vasodilation** (dilation of the blood vessels).

Cutaneous vasodilation cools the body by allowing heat to be released through skin, while cutaneous vasoconstriction warms the body by restricting blood flow in the skin. Production of sweat by the eccrine glands facilitates cooling of the body.

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Cutaneous vasodilation cools the body by allowing heat to be released through skin, while cutaneous vasoconstriction warms the body by restricting blood flow in the skin. Production of sweat by the eccrine glands facilitates cooling of the body.

**29. Which of the following is correct about muscle contraction?**

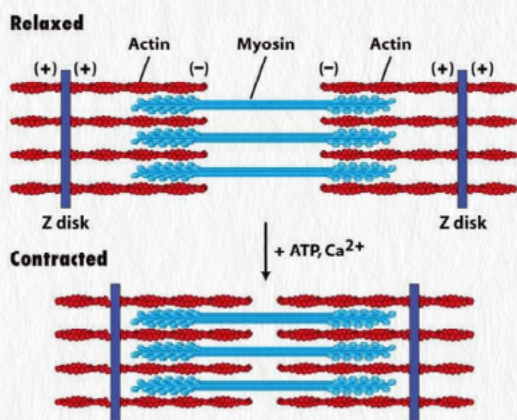
Please select all that apply.

- a. Muscle contraction requires ATP.
- b. Actin and myosin filaments slide past each other.
- c. Neurotransmitters stimulate muscle contraction.
- d. Actin filaments shorten during contraction.
- e. Myosin filaments shorten during contraction.
- f. Sarcomere shorten during contraction.

Muscle contraction occurs upon stimulation of neurotransmitters released in the neuromuscular junction. The process requires ATP and involves shortening of sarcomeres by the sliding of actin and myosin past each other.

The length of actin and myosin filaments does not change during contraction.

Please see the diagram below as a visual reference for the anatomy and physiology of muscle contraction referenced in the question above.



Source: <https://www.thinglink.com/scene/586758319968878593>

**30. Which of the following is not true about reproductive hormones?**

- a. FSH (follicle-stimulating hormone) stimulates maturation of sperm and ovum.
- b. LH (luteinizing hormone) is produced by the posterior pituitary gland.
- c. LH (luteinizing hormone) stimulates ovulation and production of testosterone.
- d. FSH (follicle-stimulating hormone) is produced by the anterior pituitary gland.

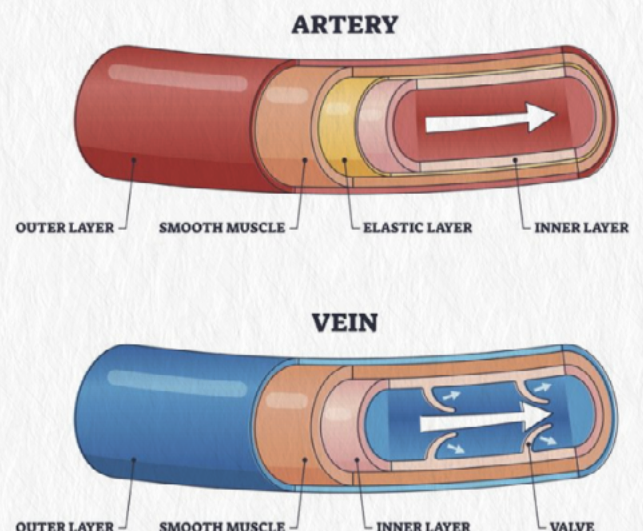
**FSH** (follicle-stimulating hormone) and **LH** (luteinizing hormone), which primarily regulate function of male and female reproductive systems, are both produced in a synchronized manner by the **anterior pituitary gland**.

FSH is primarily involved in the maturation of sperm and ovum (follicles) and LH stimulates ovulation and production of testosterone.

**31. Which of the following comparisons between arteries and veins is true?**

- a. Veins have valves, and arteries do not.
- b. Veins have thick, muscular walls, while arteries have thin, more compliant walls.
- c. Veins carry freshly oxygenated blood from tissue back to the heart, while arteries carry oxygen-depleted blood away from the heart.
- d. Veins have a smaller diameter than arteries.

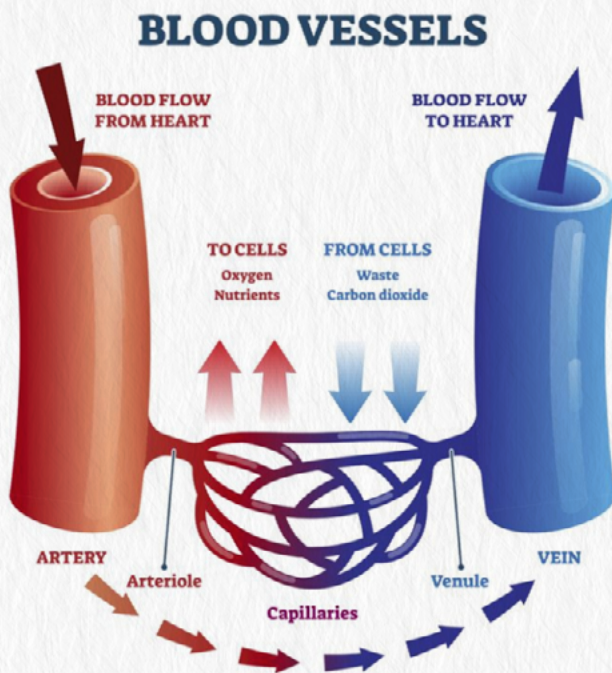
Due to the lower pressure in the venous system and the fact that most blood is trying to return back to the heart against the force of gravity, **veins have valves that prevent blood from moving backwards**.



Veins do not contain thick, muscular walls like arteries do. If venous walls were thick like arterial walls, there would be more resistance for blood flowing into veins. Since blood in the venous side is already under a lower pressure, this would create a problem for blood to return to the heart. Arteries have thick muscular walls due to the higher pressure of blood flow in the arterial side of circulation.

Veins carry blood that is leaving tissue after it has unloaded oxygen, therefore they carry oxygen-depleted blood, along with metabolic waste back towards the heart. Venous blood carries oxygen-deficient blood back to the heart. Arteries carry oxygen-rich blood from the heart to tissues where oxygen can be delivered and used for cellular respiration.

Due to the higher pressure in which arterial blood must flow, arteries have thicker walls and smaller lumen, or diameter, as compared to veins. Veins are often considered to be capacitance vessels as they carry a larger volume of blood, and have thinner walls, and greater wall compliance to accommodate the higher volume of blood.



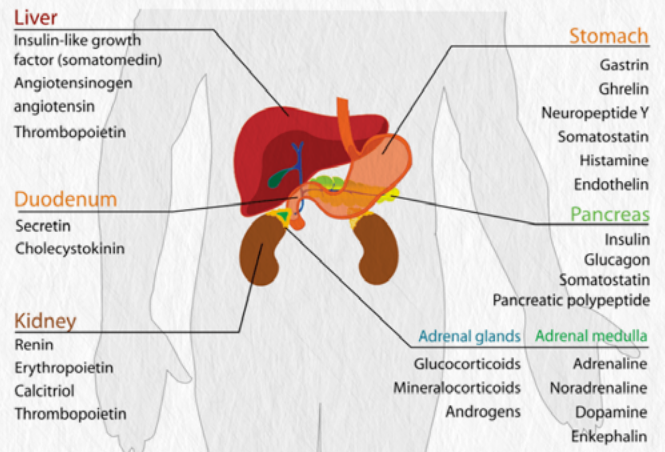
**32. Melatonin is the hormone that regulates sleep-and-wake rhythm. Which of the following endocrine glands is responsible for producing melatonin?**

- Hypothalamus
- Pituitary
- Pineal**
- Adrenal

**Melatonin**, the **hormone that regulates sleep-and-wake rhythm**, is produced by the cells in **pineal gland**.

Both the hypothalamus and pituitary glands coordinate the function of other endocrine glands by producing stimulatory and inhibitory hormones.

Adrenal glands produce the hormones cortisol and aldosterone.



**33. Which of the following substances would not dissolve in water?**

- $C_3H_6$**
- $CH_3CH_2OH$
- $CH_3OH$
- $NaCl$

**Answer:  $C_3H_6$**

Water molecules are polar, which means that the atoms involved in the covalent bond carry slightly negative or positive charges due to differences in electronegativity. In a molecule of  $H_2O$ , the oxygen atom is more electronegative and therefore pulls the shared electrons closer to itself. This results in a slight negative charge on the oxygen atom and slightly positive charges on the hydrogen atoms. These differently charged areas of water molecules play a crucial role in whether or not a substance will dissolve in water.

Both **ions** and **polar molecules** will dissolve easily in water due to the charged nature of the atoms involved.

In molecules with ionic bonds, like  **$NaCl$** , the positive ion (Na) is attracted to the negative charge on the oxygen atom of the water molecule, and the negative ion (Cl) is drawn to the positive charge on the hydrogen atoms. These attractions break the ionic bonds, which is how the substance dissolves in water.

In **polar molecules** such as  $\text{CH}_3\text{OH}$  and  $\text{CH}_3\text{CH}_2\text{OH}$ , the atoms have slight charges (like water). These slight charges are attracted to the slight charges on the atoms in the water molecules, which allows the substance to dissolve.

$\text{C}_3\text{H}_6$  is a non-polar molecule, meaning that there are no slight charges on the atoms within it. For this reason, there is no attraction to the atoms in the water molecules, and these substances will not dissolve in water.

**34. Gas exchange between the blood and alveoli would be enhanced by \_\_\_\_\_, but impeded by \_\_\_\_\_.**

- increased tidal volume; decreased membrane thickness
- increased alveolar surface area; increased membrane thickness**
- decreased respiratory rate; increased tidal volume
- decreased membrane thickness; increased alveolar surface area

Gas exchange in the lung can be explained by **Fick's Law of Diffusion**, which is represented by the following equation:

$$\text{Diffusion} = k * SA * (P_2 - P_1) / T$$

where k represents the diffusion coefficient for the specific gas, SA represents the surface area of the tissue,  $P_2 - P_1$  represents the difference in the gas concentration on one side of the membrane compared to the other side, and T represents the thickness of the tissue.

Thus, **any increases in gas coefficient, surface area, or difference in pressure will enhance gas exchange**, while any **increase in tissue thickness will impede gas exchange**.

**35. Which of the following is true of insulin and glucagon?**

Please select all that apply.

- Secretion of insulin and glucagon is regulated by the pituitary gland.
- Insulin and glucagon regulate the level of glucose in the blood.**
- Insulin and glucagon have opposite effects on blood glucose but work together to maintain homeostasis.**
- Insulin and glucagon have opposite effects on blood calcium levels but work together to maintain homeostasis.
- The pancreas secretes insulin and glucagon.**
- Insulin and glucagon regulate the level of calcium in the blood.

Insulin and glucagon are both secreted by the pancreas and function in the homeostatic maintenance of the blood's glucose level. Insulin and glucagon have opposite effects on blood glucose but work together to maintain homeostasis. **Insulin decreases the level of the blood's glucose during a fed state and glucagon increases levels of glucose during a fasting state.**

The parathyroid hormone and calcitonin regulate blood calcium levels. Parathyroid hormone increases blood calcium levels while calcitonin lowers it.

**36. The majority of nutrient absorption occurs in the \_\_\_\_\_.**

Type your response in the box below.

The **small intestine** is the site of the majority of nutrient absorption. The folds in the lining along with the length of the small intestine allows ample time for nutrients to travel through the small intestine to allow maximum absorption.

**37. Match the following structures to their function.**

- Implantation site of a zygote
- Copulatory organ of the female
- Sperm channel from the epididymis to the penis
- External sex organ of a male

Vas deferens: **Sperm channel from the epididymis to the penis**

Uterus: **Implantation site of a zygote**

Vagina: **Copulatory organ of the female**

Penis: **External sex organ of a male**

The implantation site of a fertilized egg, or zygote, is the **uterus**.

The **Vas deferens** is the sperm channel from the epididymis to the penis.

The **penis** is the external sexual organ of male.

The **vagina** is the copulatory organ of female.

The sperm enters the female's body in the vagina and moves through the cervix to reach the uterus, then finally the fallopian tubes.

The sperm enters the female's body in the vagina and moves through the cervix to reach the uterus, then finally the fallopian tubes. Fertilization takes place in the fallopian tube. After fertilization, the zygote moves from the fallopian tube to the uterus where it implants.

**38. Which of the following causes bone matrix resorption during bone growth and remodeling?**

- a. Osteons
- b. Osteocytes
- c. Osteoclasts**
- d. Osteoblasts

**Osteoclasts** are the resident **macrophages of the bones**, which are essential for **bone matrix resorption during bone growth and remodeling**.

Osteoblasts are the cells responsible for bone matrix synthesis and calcification, while osteocytes are responsible for maintenance of calcified bone matrix.

Osteons are the structural unit of compact bone characterized by concentric bone layers surrounding a central canal.

**39. Which of the following antigen-specific immune cells produce cytokines, which facilitate various immune reactions?**

- a. Helper T-cell**
- b. Cytotoxic T-cell
- c. Macrophage cell
- d. B-cell

**Helper T-cells** produce **cytokines**, which **facilitate the actions of B-cells and Cytotoxic T-cell**.

B-cells are responsible for producing immunoglobulins or antibodies while cytotoxic cells directly attack and destroy pathogens.

Helper T-cells, cytotoxic cells and B-cells are all antigen-specific immune cells.

Macrophage cells are part of non-specific innate immune system which engulf and destroy bacteria and cellular debris during infection and injury.

**40. Which of the following is a function of the epidermis?**

**Please select all that apply.**

- a. It contains many blood vessels that can constrict or dilate for thermoregulation.
- b. It stores fat.
- c. It protects underlying tissues from abrasions.**
- d. It functions as a major component of the innate immunity.**
- e. It protects underlying tissue from chemicals.**
- f. It functions as a major component of the adaptive immune system.

The **epidermis**, as the outermost layer of the skin, **protects underlying tissues from abrasions, heat, microbes, and chemicals**. It functions as a major component of the innate immune system (the "general" immune system that targets anything seen as "foreign").

It is avascular, so it does not contain blood vessels.

Lipid-containing cells are found in the subcutaneous layer.

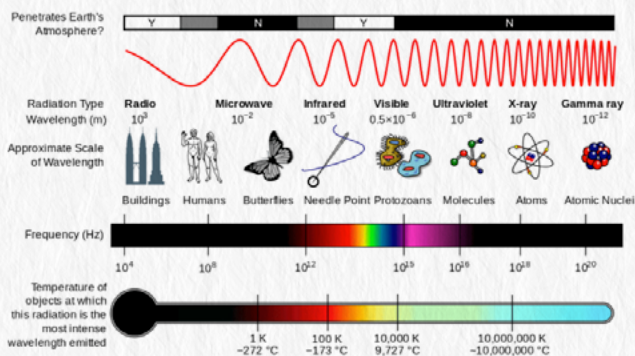
41. Movement of molecules in a substance depends on \_\_\_\_\_ energy.

- X-ray
- heat**
- Gamma ray
- UV

All matter is made of particles called atoms (which make up molecules). These atoms and molecules are always in motion – bumping into each other or vibrating back and forth. Heat is a form of energy that is created through the movement of atoms and molecules.

The **amount of movement** of molecules in a substance **increases as it gains heat** and **decreases as it loses heat**. At higher temperatures, particles have more energy. Some of this energy can be transmitted to other particles that are at a lower temperature.

There are many types of electromagnetic waves. From lowest energy to highest energy there are radio waves, microwaves, infrared, visible light, ultraviolet, x-rays and gamma rays (see diagram below). They do not affect the movement of particles in substances.



42. A scientist collected the following set of data to examine the effects of exercise on patients' heart rates.

	Resting heart Rate	Mile 1 (bpm)	Mile 2 (bpm)	Mile 3 (bpm)	Average
Patient a	95	155	154	160	156.3
Patient b	75	135	140	132	135.7
Patient c	82	142	165	150	152.3

Patients were tasked with running 1 mile everyday for three days in the presence of the scientists. They were required to run the entire mile and were not allowed to walk. At the end of each mile run, the scientists measured the heart rates of the patients. Which of the following conclusions can be drawn from this data?

- Running increased the heart rates of the patients.**
- The patients ran Mile 3 faster than Mile 1.
- Patients that ran the mile faster had higher heart rates.
- The patients became fitter with each mile run.

From the data, it is clear that the heart rate of patients after running was much higher than their resting heart rates.

There is no information provided about the pace at which the patients ran the miles.

While it is certainly possible, and even likely, that running the miles increased the patients' fitness levels, there is no data provided above to support this claim.

43. Which of the following statements is true about hydrogen bonds?

- They are considered strong attractive forces.
- They result from the attraction between ions that have no charge.
- They don't affect the properties of water in any way.
- They form between a partial positively charged region on one molecule and the partial negatively charged region on another molecule.**

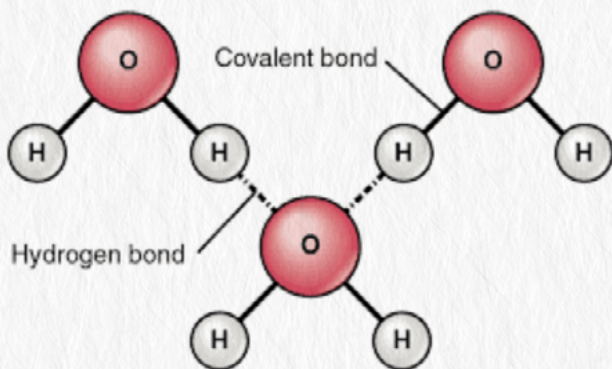


Hydrogen bonding occurs between molecules when at least one contains a hydrogen atom and both molecules have a small electric charge because the molecule is polar. Polar molecules, such as water, result from one atom having a stronger pull on the shared electrons, which causes the atoms to have slight negative or positive charges. The slight positive charge of the hydrogen atoms allow them to form hydrogen bonds with the atoms in other polar molecules with slightly negative charges.

Although hydrogen bonds are considered a weak attractive force, they are the strongest weak bonds (also known as “Vander Waal’s forces”) by far. As a result, hydrogen bonding is weaker than both ionic and covalent bonds.

Water is strongly affected by hydrogen bonding. Because the hydrogen bonds attract water molecules to one another, water is more tightly packed in liquid form than in solid form, where the molecules are held further apart in a lattice.

You may use the diagram below as a reference for hydrogen bonding between water molecules.



**44. Which of the following is the most plausible sequence of events?**

- Walk in the woods; stung by bee; given morphine; early death
- Poaching more rhinos; more export rhino horn goods; more goods with a lower economic value; economy boost
- Extensive car use; air pollution; less people with asthma; less healthcare expenses
- Born into musical family; grows up around music; starts learning guitar; plays concert**

Children who are born into families that prioritize a specific activity are typically more inclined to be exposed to that activity at a young age and after years of practice, they excel at that activity.

Ozone can make it more difficult for you to breathe deeply. Airborne particles, found in haze, smoke and airborne dust, present serious air quality problems. People with asthma are at greater risk from breathing in small particles.

Usually, bee stings don’t cause a serious reaction. However, if you’re allergic to bee stings or have had several bee stings, you may experience a severe reaction such as poisoning. Bee poisoning requires immediate medical attention. Taking an antihistamine such as diphenhydramine (Benadryl) or a non-sedating one such as loratadine (Claritin) will help with itching and swelling.

Illegal wildlife trade is also often unsustainable, harming wild populations of animals and plants and pushing endangered species toward extinction. Endangered animals and plants are often the target of wildlife crime because of their rarity and increased economic value. The bans are implemented largely through the Convention on the International Trade in Endangered Species of Fauna and Flora (CITES) and supplemented through EU and US trade measures.

**45. Which would be the approximate mass of a car?**

- 1,800 kg**
- 18 kg
- 180 kg
- 180,000 kg

It’s good to have a relative idea of the scale of various objects. The average mass of a human is around 60 kg. The average mass of a car is **1,800 kg**, and the average mass of a laptop is 2.5 kg.

**46. The same single-replacement reaction is run in two different beakers. The beakers are labeled as Beaker A and B and are heated to 75°C and 100°C, respectively. If the reactions are run for 15 minutes each, which of the following results would you expect to observe?**

- Beaker A produces more product than Beaker B.
- The two beakers produce the same amount of product.
- Beaker B produces more product than Beaker A.**
- No products are produced in either beaker.

As the temperature of a reaction increases, the reaction rate increases as well. This is due to an increased number of collisions that occur between molecules during a reaction. Since Beaker B is at a higher temperature, it should produce more product than Beaker A since the reaction times are equal.

**47. Enzymes are biological catalysts that \_\_\_\_\_.**

- Bind to the products
- Are necessary to convert substrate into products
- Use up the substrate molecules in the reaction
- Increase the rate of any given reaction**

**Increase the rate of any given reaction** is the correct answer.

**Enzymes** act as biological catalysts and **increase the rate of a reaction** by reducing the activation energy needed to begin a reaction.

**Enzymes** do **not** use substrate molecules (the starting molecules). They help increase **the rate of a reaction**.

**Enzymes** are **not** necessary for the conversion of substrates into products. They just **increase the rate of reaction** and speed up the formation of the products.

**Enzymes** do **not** bind to the products. They bind to the substrates to reduce the activation energy and catalyze the reaction.

**48. Why are control groups used in experiments?**

- To help scientists quickly perform experiments
- To increase the amount of data collected
- To ensure the accuracy of measurements
- To minimize the effect of variables**

A **control group** is used to **ensure that the number of variables that influences a data set is minimized**. This is done by comparing measured data to the control group, which has many **fixed variables**.

**49. Review the data in this table, and then choose the statement that draws the best conclusion:**

Student	Time spent sleeping the night before	Test Score	Student	Time spent sleeping the night before	Test Score
Janet	8.3 hrs	87	Antonio	10 hrs	92
Tyrone	9 hrs	89	Sara	9.4 hrs	91
Scott	6.2 hrs	67	Malcolm	8 hrs	86
Jamilya	7.3 hrs	79	Jose	8.2 hrs	86
Janae	7.5 hrs	80	Lily	6.9 hrs	70

- Hours spent sleeping and score on the test correlate with one another.**
- Hours spent sleeping and score on the test correlate negatively with one another.
- There is no correlation between sleep time and test score.
- Amount of time spent sleeping is the cause of what test score was received.

**Correlation** is a statistical measure that **indicates the extent to which two or more variables change together**. A **positive correlation** indicates that the variables are **increasing or decreasing together (in parallel)**. A **negative correlation** indicates that **as one variable increases the other decreases**.

In this example, time spent sleeping **correlated positively** with the obtained test score.

In statistics, when the value of **one event**, or variable, **increases or decreases as a result of other events**, it is said there is **causation**. This is not the best conclusion for our example, since, for example, people who have slept 8 and 8.2 hours have the same test score.

50. Dissolved oxygen (DO) is an important indicator of water quality, and oxygen levels that are too high or too low can harm aquatic ecosystems. A biologist noticed that fish were dying in a local lake and was concerned that the DO levels were too low to support aquatic life due to extremely high temperatures that summer. To measure the DO levels, she brought back several lake water samples to her laboratory to measure the DO concentration as a function of temperature. To do this, she heated several samples of lake water to various temperatures and then measured the DO concentration in each sample. Some samples were kept at the outdoors temperature.

Which of the following is the independent variable?

- a. Location of the lake
- b. Volume of water
- c. **Temperature**
- d. Dissolved oxygen concentration

The **independent variable** is the variable that is controlled during an experiment to see how it influences the dependent variable. In this case, the **temperature** of the water was changed to see how it influenced the DO concentration.



# TEAS<sup>®</sup> 7

## ELU Practice Test

# Questions:

1. Which of the following words is spelled correctly?

- a. Absense
- b. Absents
- c. Abcense
- d. Absence

2. The principle of the high school was debating whether to pursue the issue any further.

Which of the following corrects an error in the sentence above?

- a. Replace debating with debateing
- b. Replace whether with weather
- c. Replace further with farther
- d. Replace principle with principal

3. Which of the following demonstrates correct punctuation?

- a. We will study three sources of electrical power that are: solar, wind, and tidal energy.
- b. We will study three sources of electrical power; solar, wind, and tidal energy.
- c. We will be studying three sources of electrical power: solar, wind, and tidal energy.
- d. We will be studying three sources of electrical power, solar, wind, and tidal energy.

4. Where do you recommend scheduling a pedicure appointment \_\_\_\_\_

Which of the following options correctly completes the sentence above?

- a. around here.
- b. around here
- c. around here!
- d. around here?

5. She baked the \_\_\_\_\_ to perfection.

Which of the following options correctly completes the sentence above?

- a. soft, fluffy biscuits
- b. soft fluffy biscuits
- c. soft fluffy, biscuits
- d. soft and fluffy biscuits

6. My \_\_\_\_\_ has many tips on finding deals at the grocery store.

Which of the following options correctly completes the sentence above?

- a. sister: a single mother of two
- b. sister. A single mother of two,
- c. sister, a single mother of two,
- d. sister a single mother of two

7. \_\_\_\_\_ register with a valid email address.

Which of the following options correctly completes the sentence above?

- a. First please
- b. First, please
- c. First: please
- d. First; please

8. Which of the following sentences shows the correct use of punctuation marks?

- a. "How did you become such a good cook?" Grandma asked Carley at dinner.
- b. 'How did you become such a good cook?' Grandma asked Carley at dinner.
- c. "How did you become such a good cook? Grandma asked Carley at dinner."
- d. "How did you become such a good cook?" Grandma asked Carley at dinner.

9. To prepare the entrée, the chef mixed olive oil chicken and vegetables.

Which of the following correctly punctuates the sentence above?

- a. To prepare the entree, the chef, mixed olive oil chicken and vegetables.
- b. To prepare the entree, the chef mixed olive oil, chicken, and vegetables.
- c. To prepare the entree, the chef mixed, olive, oil chicken and vegetables.
- d. To prepare the entree, the chef mixed olive oil chicken, and vegetables.

10. Despite owning a \_\_\_\_\_ takes the bus to work every morning.

**Which of the following options correctly completes the sentence above?**

- a. car, Michelle
- b. car Michelle
- c. car. Michelle
- d. car; Michelle

11. In "History of Turkey," Porter refuted the notion that such a link exists\_\_\_\_\_.

**Which of the following options correctly completes the sentence above?**

- a. -35-47-
- b. (35-47)
- c. /35-47
- d. :35/47

12. Our mail carrier \_\_\_\_\_.

**Which of the following predicates correctly completes the sentence above?**

- a. left the packages on our doorstep.
- b. and left the packages on our doorstep.
- c. the packages on our doorstep.
- d. left the packages: on our doorstep.

13. The night before Kendra left for college, she couldn't sleep. Thoughts in her head about what this adventure would bring. She wondered what her roommate would be like, whether or not she would easily find all her classes, and which extracurricular organizations she might join. She knew with certainty that she could count on new, better experiences throughout the next chapter. Of her life, which she couldn't wait to begin.

**Which of the following are complete sentences from the passage? Please select all that apply.**

- a. The night before Kendra left for college, she couldn't sleep.
- b. She knew with certainty that she could count on new, better experiences throughout the next chapter.

- c. Which extracurricular organizations she might join.
- d. She wondered what her roommate would be like, whether or not she would easily find all her classes, and which extracurricular organizations she might join.
- e. Of her life, which she couldn't wait to begin.

14. **Which of the following sentences is grammatically correct?**

- a. From her favorite store, she purchased a dress that fit perfectly.
- b. A perfect fit, she purchased a dress from her favorite store.
- c. She purchased a perfectly-fitted dress from her favorite store.
- d. She purchased a dress from her favorite store that fit perfectly.

15. The head of Pediatrics \_\_\_\_\_ four children of her own.

**Which of the following options completes the sentence above?**

- a. will have
- b. have
- c. has had
- d. has

16. The school, located atop one of the highest and most beautiful mountains of the area, witnessed snowy and long winters. During the cold days, all pupils, including myself, carried a couple of hot baked potatoes in our pockets and into the freezing classrooms. This way, we could keep ourselves warm in the morning and then have a delicious and ready-to-eat snack at noon. Modern heating has its advantages, but I have yet to find something that tastes as good and comforting as those potatoes did.

**What is the author's tone in this passage?**

- a. Nostalgic
- b. Indignant
- c. Regretful
- d. Objective

17. Living in one of the warmest countries on Earth poses many challenges, as its inhabitants need not only to find inventive ways to stay cool, but they also require innovative strategies that allow them to grow their own food. Since 1985, Dmitry Ivanov has been researching hydroponic farming systems, a way to grow crops directly in nutrient-rich water. Among its many advantages, Dmitry remarks on the fact that hydroponics offers a decrease in water usage in agriculture: to grow 1 kilogram of tomatoes using intensive farming methods requires 400 liters of water, whereas hydroponic methods need only 70 liters. Nevertheless, climate change and land degradation will render all of Ivanov's efforts useless.

**Which of the following sentences from the passage does not follow the overall tone of the passage?**

- Living in one of the warmest countries on Earth poses many challenges, as its inhabitants need not only to find inventive ways to stay cool, but they also require innovative strategies that allow them to grow their own food.
  - Since 1985, Dmitry Ivanov has been researching hydroponic farming systems, a way to grow crops directly in nutrient-rich water.
  - Among its many advantages, Dmitry remarks on the fact that hydroponics offers a decrease in water usage in agriculture: to grow 1 kilogram of tomatoes using intensive farming methods requires 400 liters of water, whereas hydroponic methods need only 70 liters.
  - Nevertheless, climate change and land degradation will render all of Ivanov's efforts useless.
18. Freight train with your mile of cars  
Collecting eclectic graffiti-like scars  
Ghosts of innumerable nameless places  
Seen but looked past by thousands of faces

**Which of the following is likely the genre of the passage?**

- Poetry
- Fictional story
- Book review
- Letter

19. Summer is the hottest season of the year, and it's important to know how to prepare properly when venturing outside in the heat. First and foremost, make sure you apply plenty of sunscreen. Any area of your skin that is exposed to the sun should have sunscreen. This includes your face even if you are wearing a hat or sunglasses. Additionally, drink plenty of water. Whether you're inside or outside, always have water with you to drink. You could even make it a goal to drink so much every hour. Staying hydrated is key to good health and helps you avoid getting overheated. Last but not least, eat or snack frequently. When it's hot out, it can be easy to lose your appetite or become so engulfed in your activities that you go longer between meals. It is a good idea to have a small snack, like a granola bar, with you at all times. Your body still needs nutrients, even in the heat! Make sure your family is prepared before spending the day outside this summer.

**For whom is this passage probably being written?**

- Parents
- Business owners
- Engineers
- Teachers

20. **MOLLY:**  
Have you seen my new white boots?  
I thought I'd left them here.

**STEVIE:**  
Yeah, I think your sister is wearing them.

**Which of the following publications would most likely contain these sentences?**

- Stage play
- Scientific journal
- Poetry anthology
- Business memo

21. In order to keep horses as domesticated animals, proper care and training are necessities from the beginning. A newborn horse, or foal, will often be hesitant to interact with humans. However, it is crucial to gently attempt this interaction starting in the first few days of life and continuing on a daily basis to familiarize the horse with humans. This helps make further training for specific skills, such as racing or working cattle, much easier because trust has been established. You should probably feed your horse. Depending on the available resources, horses may eat grass, hay, grain, oats, vegetables, or even a mixture of these through feed from a store. Though it is time-consuming, caring for and training a horse early on can have significant benefits for both the horse and owner.

**Which of the following sentences contains information that does not belong in the paragraph?**

- a. Though it is time-consuming, caring for and training a horse early on can have significant benefits for both the horse and owner.
- b. In order to keep horses as domesticated animals, proper care and training are necessities from the beginning.
- c. You should probably feed your horse.
- d. A newborn horse, or foal, will often be hesitant to interact with humans.

22. **Which of the following would most likely act as a transition sentence?**

- a. Ultimately, no one is certain whether or not life exists elsewhere.
- b. Have you ever considered the possibility of life on other planets?
- c. Scientists previously identified what appeared to be tracks on the moon.
- d. On the contrary, some people believe that life forms exist on other planets.

23. **Which of the following is the first step of the writing process?**

- a. Brainstorming
- b. Proofreading
- c. Publishing
- d. Writing

24. **Which of the following sentences would most likely act as a supporting detail?**

- a. The eastern coast of the United States is home to over 1,000 species of birds.
- b. If you travel along the east coast, chances are that you'll spot several flying friends along the way.
- c. The most common type of bird seen in this area is the Red-Bellied Woodpecker.
- d. Not only do people come to watch the birds, but they also photograph the birds they see.

25. My doctor prescribed an antibiotic to fight my infection.

**Which of the following defines the prefix "anti-" as used in the word antibiotic in the sentence above?**

- a. with
- b. after
- c. against
- d. for

26. **In which of the following does the suffix create a word that has a different meaning than the root word?**

- a. phalanges
- b. examined
- c. intestinal
- d. ovaries

27. **Which of the following is the meaning of the suffix "-algia"?**

- a. Having to do with plants
- b. Spreading rapidly
- c. Having to do with pain
- d. A person who treats pain

28. Since he didn't have much of a backbone, Bryan was susceptible to peer pressure.

**Which of the following best defines the word susceptible based on its use in the sentence?**

- a. Resistant to a force or influence
- b. Subject to a force of influence
- c. To be aware of
- d. Shielded or protected from



29. Which of the following sentences is punctuated correctly?
- I ate sushi, noodles a hamburger and gr-nola today.
  - Shan purchased items for the lab such as beakers syringes, and gloves.
  - Veronika needs to purchase various plants such as a monstera, a fig tree, and a rose bush.
  - When exercising, it is important to stretch before during and after a workout.

30. \_\_\_\_\_ sometimes difficult to maintain one's optimism.

Which of the following options correctly completes the given sentence?

- Its
  - It
  - I
  - It's
31. Which of the following is the meaning of the prefix "trans-?"
- Across
  - Again
  - Between
  - Above

32. Which of the following sentences is punctuated correctly?
- I woke up at 5 o'clock because I had to hit the gym, but I was too tired to go.
  - Nina needs to take better notes in class she never has enough content to study.
  - Although Janine needed to stay calm she could not stop crying.
  - My mother told me to meet her at the gym but she didn't tell me what time.

33. Emily drew a circle in the middle of her page. She wrote the topic inside and began drawing lines that protruded out from the circle. On each line, she wrote an idea that related to the topic.

Which element of the writing process is Emily performing?

- Brainstorming
  - Drafting
  - Revising
  - Citing Sources
34. The business \_\_\_\_\_ once bragged about success is now failing.

Which of the following accurately completes the sentence above?

- who
  - whom
  - that
  - which
35. Molly is reading her manuscript and has decided to delete one paragraph, to move one paragraph from the introduction to the body of the essay, and to add some examples of her main points.

What part of the writing process is Molly performing?

- Proofreading
  - Brainstorming
  - Drafting
  - Revising
36. Which of the following words is spelled correctly?
- Rythm
  - Rhythm
  - Rhithm
  - Rythem

**37. Which sentence is structured correctly?**

- a. Running down the street, the tree caught my attention.
- b. Having finished the exam, the paper was submitted to the professor.
- c. She carefully arranged the flowers in a vase, ensuring each stem was positioned just right.
- d. Having finished my assignment, the television show was enjoyed.

# Answers:

My Total Score \_\_\_\_ / 37

- |     |         |     |   |
|-----|---------|-----|---|
| 1.  | D       | 20. | A |
| 2.  | D       | 21. | C |
| 3.  | C       | 22. | D |
| 4.  | D       | 23. | A |
| 5.  | A       | 24. | C |
| 6.  | C       | 25. | C |
| 7.  | B       | 26. | C |
| 8.  | D       | 27. | C |
| 9.  | B       | 28. | B |
| 10. | A       | 29. | C |
| 11. | B       | 30. | D |
| 12. | A       | 31. | A |
| 13. | A, B, D | 32. | A |
| 14. | C       | 33. | A |
| 15. | D       | 34. | C |
| 16. | A       | 35. | D |
| 17. | D       | 36. | B |
| 18. | A       | 37. | C |
| 19. | A       |     |   |

# Score Sheet:

**Directions:** Use the score tracker below to mark off which questions you answered correctly and which ones you got wrong. The corresponding skill title is the name of the lesson in our [NurseHub's TEAS 7 ELU Course](#). Click on each link to learn more about that topic and continue to practice in order to improve your score in that area.

Question	Correct?	Topic
1		<a href="#">Identifying Correct Spelling</a>
2		<a href="#">Identifying Correct Spelling</a>
3		<a href="#">Using Commas in a Series</a>
4		<a href="#">Using End Punctuation</a>
5		<a href="#">Using Commas to Separate Adjectives</a>
6		<a href="#">Using Commas with Nonessential Clauses</a>
7		<a href="#">Using Commas with Introductory Words</a>
8		<a href="#">Correctly Punctuating Quotations</a>
9		<a href="#">Using Commas in a Series</a>
10		<a href="#">Using Commas to Join Clauses Together</a>
11		<a href="#">Correctly Using Parentheses</a>
12		<a href="#">Types of Sentences &amp; Identifying Correct Sentence Structure</a>
13		<a href="#">Types of Sentences &amp; Identifying Correct Sentence Structure</a>
14		<a href="#">Identifying Misplaced and Dangling Modifiers</a>
15		<a href="#">Identifying Correct Subject-Verb Agreement</a>
16		<a href="#">Identifying Appropriate Language for Intended Audience/Tone</a>
17		<a href="#">Identifying Appropriate Language for Intended Audience/Tone</a>
18		<a href="#">Identifying Genre</a>
19		<a href="#">Identifying Intended Audience</a>
20		<a href="#">Identifying Genre</a>
21		<a href="#">Identifying Unrelated Sentences</a>
22		<a href="#">Identifying Parts of a Paragraph</a>
23		<a href="#">Stages of the Writing Process</a>
24		<a href="#">Identifying Parts of a Paragraph</a>
25		<a href="#">Using Prefixes to Determine Word Meaning</a>
26		<a href="#">Using Common Root Words to Determine Word Meaning</a>
27		<a href="#">Using Suffixes to Determine Word Meaning</a>
28		<a href="#">Using Context Clues to Determine Word Meaning</a>
29		<a href="#">Using Commas in a Series</a>
30		<a href="#">Identifying Correct Spelling</a>
31		<a href="#">Using Prefixes to Determine Word Meaning</a>
32		<a href="#">Using Commas to Join Clauses Together</a>
33		<a href="#">Stages of the Writing Process</a>
34		<a href="#">Using Grammar to Enhance Clarity in Writing</a>
35		<a href="#">Stages of the Writing Process</a>
36		<a href="#">Identifying Correct Spelling</a>
37		<a href="#">Types of Sentences &amp; Identifying Correct Sentence Structure</a>
Total	__/37	

**Directions:** Use your completed score sheet on the previous page to identify which TEAS 7 ELU topics you should prioritize studying if you have limited time. Each of the topics below are covered in [NurseHub's TEAS 7 ELU Course](#).

Section	Topic	Questions	Score
<b>Vocabulary Acquisition</b>	<a href="#">Using Prefixes to Determine Word Meaning</a>	25, 31	___/2
	<a href="#">Using Suffixes to Determine Word Meaning</a>	27	___/1
	<a href="#">Using Common Root Words to Determine Word Meaning</a>	26	___/1
	<a href="#">Use Context Clues to Determine Word Meaning</a>	28	___/1
<b>Conventions of Standard English</b>	<a href="#">Identifying Correct Spelling</a>	1, 2, 30, 36	___/4
	<a href="#">Correct Use of End Punctuation</a>	4	___/1
	<a href="#">Using Commas with Introductory Words</a>	7	___/1
	<a href="#">Using Commas to Join Clauses Together</a>	10, 32	___/2
	<a href="#">Using Commas with Nonessential Clauses</a>	6	___/1
	<a href="#">Commas Separating Adjectives</a>	5	___/1
	<a href="#">Using Commas in a Series</a>	9, 29	___/2
	<a href="#">Correctly Punctuating Quotations</a>	8	___/1
	<a href="#">Correct Use of Colons</a>	3	___/1
	<a href="#">Correct Use of Parenthesis</a>	11	___/1
	<a href="#">Types of Sentences</a>	13	___/1
	<a href="#">Identifying Correct Sentence Structure</a>	12, 37	___/2
<b>Knowledge of Language</b>	<a href="#">Subject-Verb Agreement</a>	15	___/1
	<a href="#">Misplaced and Dangling Modifiers</a>	14	___/1
	<a href="#">Identifying Genre</a>	18	___/1
	<a href="#">Matching Sentences to Types of Writing</a>	20	___/1
	<a href="#">Identifying Intended Audience</a>	19	___/1
	<a href="#">Identifying Appropriate Language for Intended Audience/Tone</a>	16, 17	___/2
	<a href="#">Stages of the Writing Process</a>	23, 33, 35	___/3
	<a href="#">Parts of a Paragraph</a>	22, 24	___/2
	<a href="#">Identifying Unrelated Sentences</a>	21	___/1
	<a href="#">Using Grammar to Enhance Clarity in Writing</a>	34	___/1

# Answer Explanations

1. Which of the following words is spelled correctly?

- a. Absense
- b. Absents
- c. Abcense
- d. **Absence**

## Absence

This is correct. **Ab-** as a prefix means 'away', so **absent** is the adjective that describes someone who is away from a certain place. Replacing the **-t** in absent with **-ce** creates the noun form absence (the state/condition of being away from a place). This principle applies to other words like different and difference.

## Absense

This is incorrect because it is not a correctly spelled word.

## Absents

This is incorrect because **absent** is an adjective and cannot be made plural by adding an **-s**.

## Abcense

This is incorrect because **-cense** (as in the word incense) has to do with smells. So, **abcense** would mean away from scents.

2. The principle of the high school was debating whether to pursue the issue any further. Which of the following corrects an error in the sentence above?

- a. Replace debating with debateing
- b. Replace whether with weather
- c. Replace further with farther
- d. **Replace principle with principal**

## Replace principle with principal

This is correct because a **principle** is an idea or rule. In this case, the **principal** (meaning 'the most important') is a person.

## Replace debating with debateing.

This is incorrect because the **final -e rule** states, "Drop the final e when adding a suffix that starts with a vowel".

## Replace whether with weather.

This is incorrect because **whether** is a conjunction implying some type of choice, while **weather** has to do with climate and atmospheric conditions.

## Replace further with farther.

This is incorrect because **further** means "in addition", whereas **farther** has to do with distance.

3. Which of the following demonstrates correct punctuation?

- a. We will study three sources of electrical power that are: solar, wind, and tidal energy.
- b. We will study three sources of electrical power; solar, wind, and tidal energy.
- c. **We will be studying three sources of electrical power: solar, wind, and tidal energy.**
- d. We will be studying three sources of electrical power, solar, wind, and tidal energy.

## We will be studying three sources of electrical power: solar, wind, and tidal energy

This is correct because when adding a list that gives the details of a claim in the sentence, use a colon. The colon must follow an independent clause. In other words, the part in front of the colon should be able to stand on its own as a sentence. 'Will study/will be studying' are both grammatically correct and do not affect the solution.

## We will study three sources of electrical power that are: solar, wind, and tidal energy

This is incorrect because the part of the sentence in front of the colon cannot stand on its own. 'That are' leaves the sentence with an incomplete idea.

## We will study three sources of electrical power; solar, wind, and tidal energy

This is incorrect because a semicolon needs to divide two independent clauses, and the portion following the semicolon has no verb.

## We will be studying three sources of electrical power, solar, wind, and tidal energy

This is incorrect because a comma turns 'electrical power' into one item of a list of nouns joined by 'and'. The sentence implies that 'we' will be studying three sources of electrical power, three sources of solar, three sources of wind, and three sources of tidal energy.

4. Where do you recommend scheduling a pedicure appointment \_\_\_\_\_

Which of the following options correctly completes the sentence above?

- a. around here.
- b. around here
- c. around here!
- d. **around here?**

## around here?

This is correct since the speaker is asking a question, this sentence needs a question mark.

## around here.

This is incorrect because the sentence is asking a question and not making a statement.

**around here**

This is incorrect because every sentence must have end punctuation.

**around here!**

This is incorrect because the speaker is not yelling or exclaiming.

5. She baked the \_\_\_\_\_ to perfection.

Which of the following options correctly completes the sentence above?

- a. **soft, fluffy biscuits**
- b. soft fluffy biscuits
- c. soft fluffy, biscuits
- d. soft and fluffy biscuits

**soft, fluffy biscuits**

This is correct because a comma separates the two coordinating adjectives.

**soft fluffy biscuits**

This is incorrect because a comma is needed to separate the coordinating adjectives.

**soft fluffy, biscuits**

This is incorrect because the comma between the adjective 'fluffy' and the noun 'biscuits' should be eliminated.

**soft and fluffy biscuits**

This is incorrect because it is not necessary to add and between the two adjectives. The best way to punctuate this sentence is to add a comma between the coordinating adjectives.

6. My \_\_\_\_\_ has many tips on finding deals at the grocery store.

Which of the following options correctly completes the sentence above?

- a. sister: a single mother of two
- b. sister. A single mother of two,
- c. **sister, a single mother of two,**
- d. sister a single mother of two

**sister, a single mother of two,**

This is correct. This information is not essential to the reader's overall understanding of the sentence. Therefore, a comma needs to come before and after the clause.

**sister: a single mother of two**

This is incorrect because a colon is used to elaborate, but the rest of the sentence is essential information and does not make sense as a simple elaboration. Additionally, information before a colon should be an independent clause.

**sister. A single mother of two,**

This is incorrect because the way the period separates this into two sentences does not make sense grammatically as it is incomplete.

**sister a single mother of two**

This is incorrect because it causes a run-on sentence and is grammatically incorrect.

7. \_\_\_\_\_ register with a valid email address.

Which of the following options correctly completes the sentence above?

- a. First please
- b. **First, please**
- c. First: please
- d. First; please

**First, please**

This is correct because the comma after our introductory word is grammatically correct as it sets off our introductory adverb from the rest of the sentence.

**First please**

This is incorrect because this answer choice does not have any punctuation and, thus, does not differentiate the introductory adverb first from the rest of the sentence.

**First: please**

This is incorrect because this answer choice has a colon after our introductory adverb. A colon is meant to set apart two independent clauses, usually in a definition or informative format.

**First; please**

This is incorrect because this answer choice features a semicolon after our introductory adverb. Semicolons are used to separate independent clauses in a sentence as is not the case here.

8. Which of the following sentences shows the correct use of punctuation marks?

- a. "How did you become such a good cook?" Grandma asked Carley at dinner.
- b. 'How did you become such a good cook?' Grandma asked Carley at dinner.
- c. "How did you become such a good cook? Grandma asked Carley at dinner."
- d. **"How did you become such a good cook?" Grandma asked Carley at dinner.**

**"How did you become such a good cook?" Grandma asked Carley at dinner.**

This is correct because double quotation marks are used correctly and the question mark is inside the quotations.

**"How did you become such a good cook"? Grandma asked Carley at dinner.**

This is incorrect because the question mark should be placed inside the quotation marks.

**‘How did you become such a good cook?’  
Grandma asked Carley at dinner.**

This is incorrect because the use of the single quotation mark is not correct.

**“How did you become such a good cook?  
Grandma asked Carley at dinner.”**

This is incorrect because double quotation marks are needed after the question mark, not at the very end of the sentence.

**9. To prepare the entrée, the chef mixed olive oil chicken and vegetables.  
Which of the following correctly punctuates the sentence above?**

- To prepare the entrée, the chef, mixed olive oil chicken and vegetables.
- To prepare the entrée, the chef mixed olive oil, chicken, and vegetables.**
- To prepare the entrée, the chef mixed, olive, oil chicken and vegetables.
- To prepare the entrée, the chef mixed olive oil chicken, and vegetables.

**To prepare the entrée, the chef mixed olive oil, chicken, and vegetables.**

This answer is correct because commas must separate the three ingredients being mixed.

**To prepare the entrée, the chef, mixed olive oil chicken and vegetables.**

This is incorrect because there are no commas to separate the items being listed.

**To prepare the entrée, the chef mixed, olive, oil chicken and vegetables.**

This is incorrect because there should not be a comma separating the verb ‘mixed’ and the adjective ‘olive’. Additionally, there should not be a comma separating the adjective ‘olive’ and the noun ‘oil’.

**To prepare the entrée, the chef mixed olive oil chicken, and vegetables.**

This is incorrect because there should be an additional comma placed between the nouns ‘oil’ and ‘chicken’.

**10. Despite owning a \_\_\_\_\_ takes the bus to work every morning.  
Which of the following options correctly completes the sentence above?**

- car, Michelle**
- car Michelle
- car. Michelle
- car; Michelle

**car, Michelle**

This is correct because it separates the dependent clause from the independent clause with a comma, creating the correct structure.

**car Michelle**

This is incorrect because it combines the two clauses without any punctuation, which creates a run-on sentence.

**car. Michelle**

This is incorrect because it puts the first dependent clause as its own sentence, creating a sentence fragment or incomplete sentence.

**car; Michelle**

This is incorrect because it places a semicolon in between the two clauses, and semicolons are only used for two independent clauses with no linking or transition word.

**11. In “History of Turkey,” Porter refuted the notion that such a link exists\_\_\_\_\_.**

**Which of the following options correctly completes the sentence above?**

- 35-47-
- (35-47)**
- /35-47
- :35/47

**(35-47)**

This is correct because use parentheses to indicate the page numbers in the book where this information may be found.

Since we use **parentheses** to indicate the page numbers of a book to reference, **-35-47-**; **/35-47;** **:35/47** are all incorrect uses of punctuation.

**12. Our mail carrier \_\_\_\_\_.**

**Which of the following predicates correctly completes the sentence above?**

- left the packages on our doorstep.**
- and left the packages on our doorstep.
- the packages on our doorstep.
- left the packages: on our doorstep.

**left the packages on our doorstep.**

This is correct because the predicate begins with a verb and demonstrates proper structure.

**and left the packages on our doorstep.**

This is incorrect because the conjunction “and” is not needed in the sentence.



**the packages on our doorstep.**

This is incorrect because this predicate is lacking a verb.

**left the packages: on our doorstep.**

This is incorrect because a colon is used incorrectly.

- 13.** The night before Kendra left for college, she couldn't sleep. Thoughts in her head about what this adventure would bring. She wondered what her roommate would be like, whether or not she would easily find all her classes, and which extracurricular organizations she might join. She knew with certainty that she could count on new, better experiences throughout the next chapter. Of her life, which she couldn't wait to begin.

**Which of the following are complete sentences from the passage? Please select all that apply.**

- The night before Kendra left for college, she couldn't sleep.**
- She knew with certainty that she could count on new, better experiences throughout the next chapter.**
- Which extracurricular organizations she might join.
- She wondered what her roommate would be like, whether or not she would easily find all her classes, and which extracurricular organizations she might join.**
- Of her life, which she couldn't wait to begin.

**The night before Kendra left for college, she couldn't sleep.**

**She knew with certainty that she could count on new, better experiences throughout the next chapter.**

**She wondered what her roommate would be like, whether or not she would easily find all her classes, and which extracurricular organizations she might join.**

These are all complete sentences. They all have a subject and a predicate and express a complete thought.

**14. Which of the following sentences is grammatically correct?**

- From her favorite store, she purchased a dress that fit perfectly.
- A perfect fit, she purchased a dress from her favorite store.
- She purchased a perfectly-fitted dress from her favorite store.**
- She purchased a dress from her favorite store that fit perfectly.

**She purchased a perfectly-fitted dress from her favorite store.**

This is correct because the modifier **perfectly-fitted** comes right before the noun it is modifying.

**From her favorite store, she purchased a dress that fit perfectly.**

This is incorrect because the modifier, 'from her favorite store' is not meant to modify 'she'.

**A perfect fit, she purchased a dress from her favorite store.**

This is incorrect because the 'a perfect fit' is not meant to modify 'she'.

**She purchased a dress from her favorite store that fit perfectly.**

This is incorrect because 'that fit perfectly' is not meant to modify 'store'.

- 15.** The head of Pediatrics \_\_\_\_\_ four children of her own.

**Which of the following options completes the sentence above?**

- will have
- have
- has had
- has**

**has**

This is correct because the subject is 'head' (singular) not Pediatrics, and it is in the present tense.

**will have**

This is incorrect because it is in the future tense and there is nothing to suggest this prediction can accurately be made.

**have**

This is incorrect because it is a plural verb and the subject (head) is singular.

**has had**

This is incorrect because it is past perfect tense, which indicates an action that began in the past and ended before another past action. This is an ongoing action and, as such, should be in the present tense.

- 16.** The school, located atop one of the highest and most beautiful mountains of the area, witnessed snowy and long winters. During the cold days, all pupils, including myself, carried a couple of hot baked potatoes in our pockets and into the freezing classrooms. This way, we could keep ourselves warm in the morning and then have a delicious and ready-to-eat snack at noon. Modern heating has its advantages, but I have yet to find something that tastes as good and comforting as those potatoes did.

**What is the author's tone in this passage?**

- a. Nostalgic
- b. Indignant
- c. Regretful
- d. Objective

A **Nostalgic** tone expresses a sentimental yearning for a return to or of some past period or irrecoverable condition.

**Indignant**

This is incorrect because an **indignant** tone expresses anger, especially when the writer is angered by something unjust or unworthy.

**Regretful**

This is incorrect because a **regretful** tone expresses a feeling of sadness, repentance, or disappointment over an occurrence or something that one has done or failed to do.

**Objective**

This is incorrect because an **objective** tone is factual and uninfluenced by emotion or personal prejudice, thus allowing readers to form their own opinions.

17. Living in one of the warmest countries on Earth poses many challenges, as its inhabitants need not only to find inventive ways to stay cool, but they also require innovative strategies that allow them to grow their own food. Since 1985, Dmitry Ivanov has been researching hydroponic farming systems, a way to grow crops directly in nutrient-rich water. Among its many advantages, Dmitry remarks on the fact that hydroponics offers a decrease in water usage in agriculture: to grow 1 kilogram of tomatoes using intensive farming methods requires 400 liters of water, whereas hydroponic methods need only 70 liters. Nevertheless, climate change and land degradation will render all of Ivanov's efforts useless.

**Which of the following sentences from the passage does not follow the overall tone of the passage?**

- a. Living in one of the warmest countries on Earth poses many challenges, as its inhabitants need not only to find inventive ways to stay cool, but they also require innovative strategies that allow them to grow their own food.
- b. Since 1985, Dmitry Ivanov has been researching hydroponic farming systems, a way to grow crops directly in nutrient-rich water.
- c. Among its many advantages, Dmitry remarks on the fact that hydroponics offers a decrease in water usage in agriculture: to grow 1 kilogram of tomatoes using intensive farming methods requires 400 liters of water, whereas hydroponic methods need only 70 liters.

- d. Nevertheless, climate change and land degradation will render all of Ivanov's efforts useless.

**Nevertheless, climate change and land degradation will render all of Ivanov's efforts useless.**

This is correct because the overall tone is objective, whereas this sentence uses a pessimistic tone that doesn't appear in the rest of the text.

**Living in one of the warmest countries on Earth poses many challenges, as its inhabitants need not only to find inventive ways to stay cool, but they also require innovative strategies that allow them to grow their own food.**

**Since 1985, Dmitry Ivanov has been researching hydroponic farming systems, a way to grow crops directly in nutrient-rich water.**

**Among its many advantages, Dmitry remarks on the fact that hydroponics offers a decrease in water usage in agriculture: to grow 1 kilogram of tomatoes using intensive farming methods requires 400 liters of water, whereas hydroponic methods need only 70 liters.**

These answer choices are incorrect because they have an objective tone, as does the rest of the text.

18. Freight train with your mile of cars  
Collecting eclectic graffiti-like scars  
Ghosts of innumerable nameless places  
Seen but looked past by thousands of faces

**Which of the following is likely the genre of the passage?**

- a. Poetry
- b. Fictional story
- c. Book review
- d. Letter

**Poetry**

This is correct because the writing is formatted in stanzas, complete sentences are not used, and rhyming is incorporated at the end of each line.

**Fictional story**

This is incorrect because there are no characters or plot presented in the writing.

**Book review**

This is incorrect because a book title and opinion about a book are not provided within the text.

**Letter**

This is incorrect because the text lacks a greeting, signature, and message.

**19.** Summer is the hottest season of the year, and it's important to know how to prepare properly when venturing outside in the heat. First and foremost, make sure you apply plenty of sunscreen. Any area of your skin that is exposed to the sun should have sunscreen. This includes your face even if you are wearing a hat or sunglasses. Additionally, drink plenty of water. Whether you're inside or outside, always have water with you to drink. You could even make it a goal to drink so much every hour. Staying hydrated is key to good health and helps you avoid getting overheated. Last but not least, eat or snack frequently. When it's hot out, it can be easy to lose your appetite or become so engulfed in your activities that you go longer between meals. It is a good idea to have a small snack, like a granola bar, with you at all times. Your body still needs nutrients, even in the heat! Make sure your family is prepared before spending the day outside this summer.

**For whom is this passage probably being written?**

- a. Parents
- b. Business owners
- c. Engineers
- d. Teachers

**Parents**

This is correct because the passage informs us about the importance of preparation for summer heat, and the final sentence specifically refers to families.

**Business owners**

This is incorrect because the passage does not address any business topics.

**Engineers**

This is incorrect because the passage directs families on how to be prepared for summer heat, which is not specific to engineers.

**Teachers**

This is incorrect because the final sentence mentions families, and a teacher would not be the best applicant for the mentioned scenario.

**20.** **MOLLY:**  
Have you seen my new white boots?  
I thought I'd left them here.

**STEVIE:**  
Yeah, I think your sister is wearing them.

**Which of the following publications would most likely contain these sentences?**

- a. Stage play

- b. Scientific journal
- c. Poetry anthology
- d. Business memo

**Stage play**

This is correct because in stage plays, characters' names are centered and capitalized.

**Scientific journal**

This is incorrect because scientific writing must be clear, concise, accurate, and objective. A **journal** article may include original research, re-analyses of research, reviews of literature in a specific area, proposals of new but untested theories, or opinion pieces.

**Poetry anthology**

This is incorrect because instead of paragraphs, **poems** are written in stanzas, groups of lines that contain a central idea.

**Business memo**

This is incorrect because **Business memos** convey needed information (and thus need to be straightforward) and must include a To line, a From line, a Date line, a Subject line, and the actual body of the message.

**21.** In order to keep horses as domesticated animals, proper care and training are necessities from the beginning. A newborn horse, or foal, will often be hesitant to interact with humans. However, it is crucial to gently attempt this interaction starting in the first few days of life and continuing on a daily basis to familiarize the horse with humans. This helps make further training for specific skills, such as racing or working cattle, much easier because trust has been established. You should probably feed your horse. Depending on the available resources, horses may eat grass, hay, grain, oats, vegetables, or even a mixture of these through feed from a store. Though it is time-consuming, caring for and training a horse early on can have significant benefits for both the horse and owner.

**Which of the following sentences contains information that does not belong in the paragraph?**

- a. Though it is time-consuming, caring for and training a horse early on can have significant benefits for both the horse and owner.
- b. In order to keep horses as domesticated animals, proper care and training are necessities from the beginning.
- c. **You should probably feed your horse.**
- d. A newborn horse, or foal, will often be hesitant to interact with humans.

**You should probably feed your horse**

This is correct because the tone and language is informal, but the rest of the paragraph represents a formal, technical language.

**Though it is time-consuming, caring for and training a horse early on can have significant benefits for both the horse and owner.**

This is incorrect because the vocabulary and tone remain professional and technical along with the rest of the paragraph.

**In order to keep horses as domesticated animals, proper care and training are necessities from the beginning.**

This is incorrect because the vocabulary and tone remain professional and technical along with the rest of the paragraph.

**A newborn horse, or foal, will often be hesitant to interact with humans.**

This is incorrect because the vocabulary and tone remain professional and technical along with the rest of the paragraph.

**22. Which of the following would most likely act as a transition sentence?**

- Ultimately, no one is certain whether or not life exists elsewhere.
- Have you ever considered the possibility of life on other planets?
- Scientists previously identified what appeared to be tracks on the moon.
- On the contrary, some people believe that life forms exist on other planets.**

**On the contrary, some people believe that life forms exist on other planets.**

This is correct because it begins with the transition phrase, "on the contrary", which signals a change in the direction of the discussion.

**Ultimately, no one is certain whether or not life exists elsewhere.**

This is incorrect because the use of the word "ultimately" suggests that it is a concluding sentence.

**Have you ever considered the possibility of life on other planets?**

This is incorrect because a question would best serve as a thought-provoking topic or closing sentence.

**Scientists previously identified what appeared to be tracks on the moon.**

This is incorrect because it is a detail that supports a main idea.

**23. Which of the following is the first step of the writing process?**

- Brainstorming**
- Proofreading
- Publishing
- Writing

**Brainstorming**

This is correct because thoughts must be put on paper before we can organize them into a written piece of work.

**The writing process is as follows:**

**Brainstorming/Plan/Outline:** The thinking we do before we begin a piece of writing, which can include creating a plan or outline for your piece of writing

**Draft/Write:** Our first attempt at writing or our first version of our piece of writing

**Revise/Proofread:** Read your draft and make organizational, wording, or grammatical changes to our piece of writing to make it stronger

**Cite Sources:** Giving credit to sources that we used within our piece of writing

**Publish:** Putting our finished piece out for everyone to see

**Proofreading**

This is incorrect because it is one of the last steps in the process.

**Publishing**

This is incorrect because it is the final step of the writing process.

**Writing**

This is incorrect because the actual writing comes after we have thoroughly planned and organized.

**24. Which of the following sentences would most likely act as a supporting detail?**

- The eastern coast of the United States is home to over 1,000 species of birds.
- If you travel along the east coast, chances are that you'll spot several flying friends along the way.
- The most common type of bird seen in this area is the Red-Bellied Woodpecker.**
- Not only do people come to watch the birds, but they also photograph the birds they see.

**The most common type of bird seen in this area is the Red-Bellied Woodpecker.**

This is correct because it provides specific information regarding the topic, i.e. birds along the east coast.

**The eastern coast of the United States is home to over 1,000 species of birds.**

This is incorrect because it would most likely act as a topic sentence.

**If you travel along the east coast, chances are that you'll spot several flying friends along the way.**

This is incorrect because it would best serve to introduce the topic.

**Not only do people come to watch the birds, but they also photograph the birds they see.**

This is incorrect because it would best serve as a transition sentence, leading to more details about photographing birds.

**25. My doctor prescribed an antibiotic to fight my infection.**

**Which of the following defines the prefix "anti-" as used in the word antibiotic in the sentence above?**

- a. with
- b. after
- c. against**
- d. for

**Against**

This is correct because the context clue "fight" indicates that "anti-" means "against".

**With**

This is correct because it is an antonym (opposite) of anti-.

**After**

This is correct because it does not fit the sentence.

**For**

This is correct because it is an antonym of anti-.

**26. In which of the following does the suffix create a word that has a different meaning than the root word?**

- a. phalanges
- b. examined
- c. intestinal**
- d. ovaries

**Intestinal**

This is correct because "-al" changes **intestines (noun)** to **intestinal (adjective)**, which means "relating to the intestines."

**Phalanges**

This is incorrect because the "-s" makes "phalange" plural.

**Examined**

This is incorrect because the "-ed" makes "exam" past tense.

**Ovaries**

This is incorrect because the "-es" makes "ovary" plural. (Change the "y" to an "i").

**27. Which of the following is the meaning of the suffix "-algia"?**

- a. Having to do with plants
- b. Spreading rapidly
- c. Having to do with pain**
- d. A person who treats pain

**Having to do with pain**

This is correct because "-algia" means "having to do with pain." For example, "fibromyalgia" means "having to do with muscle pain."

**Having to do with plants**

This is incorrect because the suffix "-algia" just looks like the word "algae" so it's incorrect.

**Spreading rapidly**

This is incorrect because there is no suffix with this meaning. Rather there is a prefix with this meaning.

**A person who treats pain**

This is incorrect because this meaning is usually indicated by "-ist," "-ar/-er/-or," "-ant," or "-ian."

**28. Since he didn't have much of a backbone, Bryan was susceptible to peer pressure.**

**Which of the following best defines the word susceptible based on its use in the sentence?**

- a. Resistant to a force or influence
- b. Subject to a force of influence**
- c. To be aware of
- d. Shielded or protected from

**Subject to a force of influence**

Bryan "not having a backbone" would make it difficult for him to resist peer pressure. Therefore, **subject to a force of influence** would be the best definition.

**Resistant to a force or influence**

This is incorrect because Bryan's lack of a backbone implies that he is not resistant to influence.

**To be aware**

This is incorrect because having a backbone refers to someone's ability to stand up to a force, not their awareness of the force.

**Shielded or protected from**

This is incorrect because lack of backbone would open one up to peer pressure rather than protecting from it.

**29. Which of the following sentences is punctuated correctly?**

- I ate sushi, noodles a hamburger and granola today.
- Shan purchased items for the lab such as beakers syringes, and gloves.
- Veronika needs to purchase various plants such as a monstera, a fig tree, and a rose bush.**
- When exercising, it is important to stretch before during and after a workout.

**Veronika needs to purchase various plants such as a monstera, a fig tree, and a rose bush.**

This is correct because this sentence correctly utilizes the commas in a series rule (comma, comma, and rule).

**I ate sushi, noodles a hamburger and granola today.**

This is incorrect. The corrected version of this sentence would read: I ate sushi, noodles, a hamburger, and granola today.

**Shan purchased items for the lab such as beakers syringes, and gloves.**

This is incorrect. The corrected version of this sentence would read: Shan purchased items for the lab such as beakers, syringes, and gloves.

**When exercising, it is important to stretch before during and after a workout.**

This is incorrect. The corrected version of this sentence would read: When exercising, it is important to stretch before, during, and after a workout.

**30. \_\_\_\_\_ sometimes difficult to maintain one's optimism.**

**Which of the following options correctly completes the given sentence?**

- Its
- It
- I
- It's**

**It's**

This is correct because this is a contraction, it makes the most sense in context.

**Its**

This is incorrect because this word is a possessive pronoun indicating ownership and is incorrect in the given context.

**It**

This is incorrect because this is a pronoun used to refer to a previously mentioned or understood noun, so it does not fit into the given sentence.

**I**

This is incorrect because this is a pronoun used to refer to oneself. It is not appropriate in this sentence.

**31. Which of the following is the meaning of the prefix "trans-"?**

- Across**
- Again
- Between
- Above

**Across**

This is correct because the prefix **trans-** means *across*. For example, **transatlantic** means *across the Atlantic*.

The prefix **re-** means *again*.

The prefix **inter-** means *between*.

The prefix **super-** means *above*.

**32. Which of the following sentences is punctuated correctly?**

- I woke up at 5 o'clock because I had to hit the gym, but I was too tired to go.**
- Nina needs to take better notes in class she never has enough content to study.
- Although Janine needed to stay calm she could not stop crying.
- My mother told me to meet her at the gym but she didn't tell me what time.

**I woke up at 5 o'clock because I had to hit the gym, but I was too tired to go.**

This is correct. This is a compound-complex sentence that is correctly punctuated. There are two independent clauses ("I woke up at 5 o'clock," and, "But I was too tired to go") and one dependent clause ("Because I had to hit the gym").

**Nina needs to take better notes in class she never has enough content to study.**

This is incorrect. This is a run-on sentence and should be broken up by a semicolon. The correct sentence should read: Nina needs to take better notes in class; she never has enough content to study.

**Although Janine needed to stay calm she could not stop crying.**

This is incorrect. This is a complex sentence that contains an independent and a dependent clause that should be separated by a comma. The correct sentence should read: Although Janine needed to stay calm, she could not stop crying.

**My mother told me to meet her at the gym but she didn't tell me what time.**

This is incorrect. This is a compound sentence. It has two independent clauses that are joined by a coordinating conjunction, and should have a comma. The correct sentence should read: My mother told me to meet her at the gym, but she didn't tell me what time.

- 33.** Emily drew a circle in the middle of her page. She wrote the topic inside and began drawing lines that protruded out from the circle. On each line, she wrote an idea that related to the topic.

**Which element of the writing process is Emily performing?**

- Brainstorming**
- Drafting
- Revising
- Citing Sources

**Brainstorming**

This is correct because Emily is creating a mind map. A mind map helps writers outline their ideas before drafting.

**Drafting**

This is incorrect because drafting refers to actually writing the words of the paper. It is common to go through several drafts.

**Revising**

This is incorrect because revising in the writing process refers to the act of reviewing, changing, and improving an initial draft.

**Citing Sources**

This is incorrect because "Citing sources" in the context of the writing process refers to the practice of giving proper credit to the original authors of works or ideas used in your own writing.

- 34.** The business \_\_\_\_\_ once bragged about success is now failing.

**Which of the following accurately completes the sentence above?**

- who
- whom
- that**
- which

**"That"**

This is correct because "That" is a pronoun used to identify a specific noun. In this sentence, "that" refers to "the business."

**"Who"**

This is incorrect because "Who" is used when referring to the person or people performing an action. A business is not a person, so "who" cannot be used.

**"Whom"**

This is incorrect because "Whom" is used in formal or written English as the objective form of "who" that refers to a person. A business is not a person, so "whom" cannot be used.

**"Which"**

This is incorrect because "Which" is used to introduce a non essential clause which includes information that is not important to the meaning of the sentence. In this sentence, an essential clause is introduced, because "once bragged about success" is essential to understanding the sentence. This means that "which" cannot be used.

- 35.** Molly is reading her manuscript and has decided to delete one paragraph, to move one paragraph from the introduction to the body of the essay, and to add some examples of her main points.

**What part of the writing process is Molly performing?**

- Proofreading
- Brainstorming
- Drafting
- Revising**

There are four major stages of the writing process:

**Prewriting**, the first stage, is where the author gathers information and ideas. It involves brainstorming, taking notes, preparing an outline, etc.

**Drafting** is the second stage of the writing process in which the author puts their ideas on paper. This is the first attempt at writing what will eventually become the final product.

**Revising**, the third stage, is where the author reviews and makes changes to their message in order to better reach the audience.

**Proofreading**, the fourth stage of the writing process, means that the author goes over their writing to check for grammatical errors or ambiguous sentences.

**36. Which of the following words is spelled correctly?**

- a. Rythm
- b. Rhythm**
- c. Rhithm
- d. Rythem

The correct spelling is “**rhythm**”.

**37. Which sentence is structured correctly?**

- a. Running down the street, the tree caught my attention.
- b. Having finished the exam, the paper was submitted to the professor.
- c. She carefully arranged the flowers in a vase, ensuring each stem was positioned just right.**
- d. Having finished my assignment, the television show was enjoyed.

**She carefully arranged the flowers in a vase, ensuring each stem was positioned just right.**

This is the only sentence that is structured correctly because it does not contain a dangling modifier. The participial phrase, "ensuring each stem was positioned just right," modifies the entire preceding clause. It provides additional information about how she arranged the flowers, emphasizing the attention to detail. The subject of the participial phrase ("each stem") is logically connected to the action of ensuring proper positioning.

**Running down the street, the tree caught my attention.**

This sentence is grammatically incorrect because it has a dangling modifier. "Running down the street," is a dangling modifier because it is unclear what or who is running down the street. The modifier should be connected to a subject in the main clause for clarity.

**Having finished the exam, the paper was submitted to the professor.**

This sentence is grammatically incorrect because it has a dangling modifier. "Having finished the exam," is a dangling modifier. It suggests that the paper finished the exam, which is illogical. To correct it, the subject performing the action should be clarified and connected to the main clause.

**Having finished my assignment, the television show was enjoyed.**

This is grammatically incorrect because it has a dangling modifier. "Having finished my assignment," is a dangling modifier. It suggests that the television show finished the assignment, which is illogical. The modifier is not clearly and logically connected to the subject of the main clause.





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