



# ASVAB

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## Practice Questions

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**1. Of all the options given, the simple machine that offers a mechanical advantage of exactly 1 is the:**

- A. Second-class lever.
- B. Screw.
- C. Single movable pulley.
- D. Single fixed pulley.

**2. Which organisms incorporate nonliving atoms and molecules into sugars and other organic molecules?**

- A. Decomposers
- B. Carnivores
- C. Herbivores
- D. Plants

**3. We know that vitamin C is a vitamin that dissolves in water. Hence, which of the following statements is correct?**

- A. Vitamin C is easily flushed out of your body.
- B. Vitamin C is easily stored in your body for long periods of time.
- C. It is easy to consume too much vitamin C and suffer from toxicity.
- D. Vitamin C does not need to be replenished regularly.

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**4. If the force acting on an object is doubled while keeping the distance constant, what would be the amount of work performed on the object?**

- A. 1/2 as much work
- B. 1/4 as much work
- C. 2 times as much
- D. 4 times as much work



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5. A painter has skillfully adorned a piece of canvas that measures 10 x 14 inches with intricate strokes of color. To allow for a framing masterpiece, the painter has thoughtfully decided to create a 1-inch margin devoid of paint, encompassing the entire perimeter of the canvas.<br/><br/>What proportion of the canvas has been adorned with the painter's artistic creation?

- A. 75%
- B. 66%
- C. 68,5%
- D. 25%

6. The supervisor of a small company is planning a new open office layout and believes that employees will require 4 chairs for every 2 desks.<br/><br/>For an office building with 40 desks, how many office chairs will be required based on the ratio of 4 chairs for every 2 desks?

- A. 20 chairs
- B. 64 chairs
- C. 40 chairs
- D. 80 chairs

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7. A right triangle, which has an area of 24 square feet, consists of one leg that is three times longer than the other leg. To determine the length of the longest side, we need to solve for this value.

- A. 12
- B. 8.4
- C. 6.3
- D. 12.6

8. If 60% of individuals possess a pet, with two-thirds of these pets being cats, what fraction of the population owns a cat?

- A. 2/5
- B. 2/3
- C. 5/8
- D. 1/3



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9. A waitress typically receives an average tip equivalent to 12% of the total cost of the food she serves. If she serves food amounting to \$375 in one evening, how much would she earn in tips on average?

- A. \$37
- B. \$420
- C. \$45
- D. \$42

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10. With what number must 3.475817 be multiplied in order to obtain the number 34,758.17?

- A. 100,000
- B. 1,000
- C. 100
- D. 10,000

11. Verna's Canned Vegetables, Inc. aims to color each can of vegetables blue, including both the top and bottom. With a lid diameter ( $l$ ) of 5 cm and a can height ( $h$ ) of 9 cm, what is the estimated total surface area that requires blue coloring for each can?

- A.  $166.8 \text{ cm}^2$
- B.  $180.6 \text{ cm}^3$
- C.  $166.8 \text{ cm}^3$
- D.  $180.6 \text{ cm}^2$

12. Jerry finds himself perspiring as he faces the challenge of speaking in front of an audience for the first time. Despite his nerves, he recognizes this as an opportunity to prove himself. Though Jerry attempts to appear composed by hiding his trembling hands, he raises his head and offers a smile to the individuals seated before him. However, as he begins to speak, his words become jumbled, and he stumbles over numerous "ums" and "uhs." The increased shaking intensifies his doubts, leading him to question the ease of the task he initially anticipated.

- A. Has to deliver a speech to thousands of people.
- B. Tries to do something he hasn't done in a long time.
- C. Thought speaking would be easy, but it was actually hard.
- D. Thought speaking would be hard, but it was actually easy.



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**13. Based on Passage 4, which animal is most likely adapted to survive in a grassy environment?**

- A. Raccoons
- B. Elephants
- C. Grasshoppers
- D. Skunks

**14. This author implies that**

- A. Gramma couldn't hear very well.
- B. Gramma didn't change her routine.
- C. Gramma didn't like the forest.
- D. Gramma cooked supper.

**15. In 1962, the Cuban Missile Crisis placed the world on the verge of a nuclear war. Although not a single missile was launched, the crisis is considered by many to be the closest man has come to a nuclear war. After the failed attempt in 1961 by Cuban exiles to invade Cuba, Fidel Castro, Cuba's leader, was certain of another attack by the United States. To help defend his country, Castro, an ally of the Soviet Union, asked Premier Nikita Khrushchev for military aid. The USSR sent missiles and supplies to build launch pads in Cuba. These missiles could easily reach American soil. In October of 1962, the United States discovered the Cuban missile bases. U.S. President John F. Kennedy met with government officials and for seven days debated the situation. He decided to impose a blockade around Cuba to prevent further shipment from the Soviet Union to Cuba. The situation was made public and the American people waited tensely. Kennedy secretly brokered an agreement with Khrushchev. The Soviet Union agreed to remove the weapons from Cuba. Kennedy agreed not to invade Cuba and to also remove US missiles from Turkey. What caused Castro to think the U.S. would attack Cuba?**

- A. Khrushchev sent aid to Cuba.
- B. There had been a previous failed attack.
- C. Kennedy alerted Castro of an attack.
- D. The situation had been made public.

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**16. What is grounding in the context of electricity?**

- A. Turning off dangerous circuits
- B. Putting electricians on probation for faulty wiring
- C. Providing a pathway for excess electricity to the ground
- D. Helping individuals who have been shocked stay on the ground

**17. The wire of the coil in an ignition system <code>\_\_\_\_\_</code>.**

- A. Transmits voltage from the coil winding to the distributor cap
- B. Times the spark
- C. Generates the signal that operates the ignition module
- D. Transmits voltage from the distributor cap to the spark plug

**18. Which system is required to start an automobile?**

- A. Drive train
- B. Lubrication
- C. Exhaust
- D. Electrical

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**19. If width of a rectangle is increased by 10% and the length is decreased by 20%, by what percent does the area decrease?**

- A. 16%
- B. 12%
- C. 20%
- D. 21%

**20. If a car is traveling at a speed of 200 km per hour, how many minutes will it take to cover a distance of 60 km?**

- A.  $3 \frac{1}{3}$
- B. 12
- C. 3
- D. 18



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21. What is the value of  $(0.2)^5$  ?

- A. 0.00032
- B. 0.32
- C. 0.008
- D. 0.0016

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22. What are the roots of the equation  $b^2 + 15 = -8b$ ?

- A. 3 and 5
- B. -3 and 5
- C. 3 and -5
- D. -3 and -5

23. In an examination consisting of 4 subjects, John achieved scores of 100, 60, and 55 in three of the subjects. To maintain an average mark of 75 across all four subjects, what score must John have received in the fourth subject?

- A. 85
- B. 88
- C. 93
- D. 91

24. Which figure **BEST** shows how the objects in the left box will appear if they are fit together?

- A. B
- B. C
- C. A
- D. D

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25. The accusation was hurtful

- A. Statement of wrongdoing
- B. Truth
- C. Speech
- D. Joke



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**26. Use your knowledge of word roots to determine which word is most similar in meaning to equity.**

- A. Favor
- B. Opportunity
- C. Fortune
- D. Fairness

**27. The letter emphasized two important ideas.**

- A. Stressed
- B. Overlooked
- C. Contrasted
- D. Introduced

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**28.  In the figure above, the flat sheet metal pattern that can be bent along the dotted lines to form the completely closed triangular box is**

- A. 1
- B. 4
- C. 2
- D. 3

**29. What is the friction due to air called?**

- A. None are correct
- B. Air friction
- C. Air opposition
- D. Air resistance

**30. What are the differences between a wedge and an inclined plane?**

- A. A wedge provides more mechanical advantage.
- B. A wedge is used in motion.
- C. The angles of a wedge are generally smaller.
- D. A wedge compounds force.



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## Answer Key & Explanations

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### 1. D — Single fixed pulley.

A single fixed pulley is a simple machine that offers a mechanical advantage of exactly 1. This means that the input force and the output force are the same. The pulley does not multiply or change the force applied to it. It only changes the direction of the force.

### 2. D — Plants

Only green plants carry out photosynthesis, the process that uses energy and nonliving materials to create nutrients. Decomposers (choice A) release nonliving atoms and molecules into the environment. Carnivores (choice B) use plant-made organic molecules to live. Herbivores (choice D) are types of animals that eat plants to obtain their organic molecules.

### 3. A — Vitamin C is easily flushed out of your body.

Vitamin C is a water-soluble vitamin, which means it dissolves in water and is not stored in your body for long periods of time. Instead, your body flushes out any excess vitamin C through urine. This is why it is important to consume vitamin C regularly, as your body does not have the ability to store it like it does with fat-soluble vitamins.

### 4. C — 2 times as much

As per the formula, if you double the force while keeping the distance constant, the amount of work is also doubled.

### 5. C — 68,5%

To determine the proportion of the canvas that has been adorned with the painter's artistic creation, we need to calculate the area of the painted portion relative to the total area of the canvas. The canvas measures 10 x 14 inches, which means the total area is  $10 * 14 = 140$  square inches. The painter has decided to create a 1-inch margin devoid of paint around the entire perimeter of the canvas. This means the painted portion will be  $10 - 2 * 1 = 8$  inches wide and  $14 - 2 * 1 = 12$  inches tall. The area of the painted portion is therefore  $8 * 12 = 96$  square inches. To find the proportion, we divide the area of the painted portion by the total area of the canvas:  $\text{Proportion} = (96 / 140) * 100 = 68.57\%$  Rounded to the nearest tenth, the proportion of the canvas adorned with the painter's artistic creation is 68.5%.

### 6. D — 80 chairs

To calculate how many chairs are required for 40 desks, we can use the given ratio of 4 chairs for every 2 desks. For every 2 desks, we need 4 chairs. So, for 40 desks, we can calculate the required number of chairs as follows:  $40 \text{ desks} * (4 \text{ chairs} / 2 \text{ desks}) = 80 \text{ chairs}$  Therefore, the correct answer is 80 chairs.

### 7. D — 12.6

For a right triangle, the area can be calculated using the formula:  $\text{Area} = (1/2) * \text{base} * \text{height}$  Let's assume that the shorter leg of the triangle is x feet. According to the given information,



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the longer leg is three times longer than the shorter leg, so the longer leg would be  $3x$  feet. Using the formula for the area of a triangle, we can set up the equation:  $24 = \frac{1}{2} * x * 3x$   $48 = 3x^2$   $16 = x^2$   $x = 4$  So, the shorter leg of the triangle is 4 feet. To find the length of the longest side, we can use the Pythagorean theorem, which states that in a right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the other two sides. In this case, the longest side is the hypotenuse. Let's denote the length of the longest side (hypotenuse) as  $c$ . Using the Pythagorean theorem, we can set up the equation:  $c^2 = (4^2) + (3(4))^2$   $c^2 = 16 + 144$   $c^2 = 160$   $c = \sqrt{160}$   $c \approx 12.6$  So, the length of the longest side (hypotenuse) is approximately 12.6 feet. Therefore, the correct answer is B) 12.6.

**8. A —  $\frac{2}{5}$** 

To determine the fraction of the population that owns a cat, we need to multiply the percentage of individuals that possess a pet (60%) by the fraction of these pets that are cats ( $\frac{2}{3}$ ).  $60\% \times \frac{2}{3} = \frac{60}{100} \times \frac{2}{3} = \frac{120}{300} = \frac{2}{5}$  Therefore, the fraction of the population that owns a cat is  $\frac{2}{5}$ .

**9. C — \$45**

Explanation: To calculate the amount of tips, multiply the total spent on drinks, which is 375, by the tip percentage of 12%.  $\$375 \times 0.12 = \$45$ .

**10. D — 10,000**

The decimal must be moved four places to the right. To do this, we must multiply by a number with four zeroes.

**11. D —  $180.6 \text{ cm}^2$** 

The formula to calculate the total surface area of a cylinder is  $2\pi r^2 + 2\pi rh$ . By summing the surface area of each end to the surface area of the side, the approximate total surface area for each can amounts to  $180.6 \text{ cm}^2$ .

**12. C — Thought speaking would be easy, but it was actually hard.**

This answer accurately reflects the main idea of the passage. Jerry initially believed that speaking in front of a large audience would be easier than it actually was. However, he quickly realized that he was mistaken as he stumbled over his words and felt consumed by anxiety.

**13. C — Grasshoppers**

Passage 4 is all about how the coloring of animals helps them to survive by camouflaging them in their given environments. Since grasshoppers are green like grass, choice A is the best answer. The other answer choices do not describe green animals.

**14. B — Gramma didn't change her routine.**

The third sentence and the final sentence imply a routine of sitting on the porch every night after supper.

**15. B — There had been a previous failed attack.**

This is the reason or cause for Castro's belief that the U.S. might launch an attack.

**16. C — Providing a pathway for excess electricity to the ground**

Grounding is an important aspect of electrical engineering, and indeed anything to do with electricity. It is the process of ensuring that excess electricity from a system goes to the ground instead of being conducted in dangerous ways and harming humans, animals, or structures. It is a requirement for safe electrical



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**23. A — 85**

To find the score John must have received in the fourth subject, we need to consider the average mark across all four subjects. Since John achieved scores of 100, 60, and 55 in three of the subjects, we can calculate the sum of these scores ( $100 + 60 + 55$ ) which equals 215. Now, to maintain an average mark of 75 across all four subjects, we need to find the total score John should have received in all four subjects. We can start by multiplying the average mark of 75 by 4 to get the desired total score, which is 300. To find the score John must have received in the fourth subject, we subtract the sum of the scores achieved in the three subjects from the desired total score. In this case,  $300 - 215$  equals 85. Therefore, John must have received a score of 85 in the fourth subject to maintain an average mark of 75 across all four subjects.

**24. D — D**

Only in figure D shapes of pieces are the same.

**25. A — Statement of wrongdoing**

An accusation is a statement, or claim, of wrongdoing.

**26. D — Fairness**

Solution: The word root equ means equal.

**27. A — Stressed**

To emphasize is to stress.

**28. C — 2**

As brace C has the greatest area of support, it is the most secure.

**29. D — Air resistance**

The friction due to air has a special name: air resistance.

**30. B — A wedge is used in motion.**

A wedge is a simple machine that is used for splitting, cutting, or holding objects in place. It has a triangular shape and is typically made of metal or wood. When a wedge is used, it is either driven into an object or used to separate two objects by applying force in a focused and concentrated manner. This motion makes a wedge different from an inclined plane.



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