Armed Forces Classification Test (AFCT) Arithmetic Reasoning Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. **If a box contains 48 candies and you distribute them equally among 8 friends, how many candies does each friend get?**

   A. 5 candies

   B. 6 candies

   C. 7 candies

   D. 8 candies

2. **If you need 45 minutes to finish a project and you start at 2:15 PM, what time will you finish?**

   A. 2:45 PM

   B. 2:55 PM

   C. 3:00 PM

   D. 3:15 PM

3. **A class of students has an average age of 12 years. If there are 20 students, what is their total age?**

   A. 240 years

   B. 180 years

   C. 300 years

   D. 2400 years

4. **A recipe requires 3 cups of flour to make 12 cookies. How many cups of flour are needed to make 36 cookies?**

   A. 6 cups

   B. 7 cups

   C. 8 cups

   D. 9 cups

5. **If a concert ticket costs $45 and you buy 4 tickets, how much do you spend?**

   A. $180

   B. $150

   C. $200

   D. $175

6. You have a sheet of paper 8 1/2 in by 11 in. If you line 10 pieces of these papers side by side lengthwise, what is the perimeter of all the papers?

A. 237 in

B. 220 in

C. 180 in

D. 200 in

7. If 3/16 of an inch represents 15 miles, how many inches represent 20 miles?

A. 1/2

B. 1/4

C. 1/8

D. 3/8

8. If it takes 5 workers 10 hours to complete a task, how long will it take 10 workers to complete the same task?

A. 5 hours

B. 10 hours

C. 15 hours

D. 20 hours

9. A train travels 60 miles in 1 hour. How far does it travel in 2.5 hours?

A. 120 miles

B. 150 miles

C. 180 miles

D. 200 miles

10. If a TV costs $600 and the tax rate is 7.75%, what was the amount of tax on the TV?

A. $51.75

B. $46.50

C. $48.25

D. $49.50

Answers

1. B
2. C
3. A
4. A
5. A
6. A
7. B
8. A
9. C
10. B

Explanations

1. If a box contains 48 candies and you distribute them equally among 8 friends, how many candies does each friend get?

A. 5 candies

B. 6 candies

C. 7 candies

D. 8 candies

To determine how many candies each friend receives when 48 candies are distributed equally among 8 friends, you need to perform a division operation. The total number of candies, which is 48, needs to be divided by the number of friends, which is 8. When you divide 48 by 8, you calculate as follows: 48 ÷ 8 = 6 This means each friend receives 6 candies. The process of equal distribution ensures that every friend gets the same amount, and division is the correct mathematical operation to achieve this. Therefore, the resulting figure for how many candies each friend gets is accurately represented by the calculated answer.

2. If you need 45 minutes to finish a project and you start at 2:15 PM, what time will you finish?

A. 2:45 PM

B. 2:55 PM

C. 3:00 PM

D. 3:15 PM

To determine the correct finishing time for the project, you start by adding the total time needed to the starting time. In this scenario, the project requires 45 minutes to complete, and you begin working on it at 2:15 PM. To add the minutes to the starting time: 1. From 2:15 PM, add 30 minutes first, which brings you to 2:45 PM. 2. Then, you have an additional 15 minutes to account for. Adding these 15 minutes to 2:45 PM leads to 3:00 PM. Therefore, after adding the total 45 minutes to your starting time of 2:15 PM, you finish the project at 3:00 PM. Thus, the correct answer reflects the total addition accurately.

3. A class of students has an average age of 12 years. If there are 20 students, what is their total age?

A. 240 years

B. 180 years

C. 300 years

D. 2400 years

To find the total age of the students in the class, we can use the formula for average, which is the total sum of ages divided by the number of students. We know the average age is 12 years, and there are 20 students in the class. The formula for average can be rearranged to find the total age: Total Age = Average Age × Number of Students Substituting in the given values: Total Age = 12 years × 20 students = 240 years Thus, the total age of the students is 240 years. This calculation shows how averages work in calculating totals by multiplying the average by the number of participants, which confirms that the correct answer is based on applying this mathematical concept accurately.

4. A recipe requires 3 cups of flour to make 12 cookies. How many cups of flour are needed to make 36 cookies?

A. 6 cups

B. 7 cups

C. 8 cups

D. 9 cups

To determine how many cups of flour are needed to make 36 cookies based on the information given, we can establish a ratio from the recipe provided. The recipe states that 3 cups of flour yield 12 cookies. First, we can find out how many cookies can be made per cup of flour. If we take 3 cups of flour to make 12 cookies, we can divide the number of cookies by the number of cups of flour: 12 cookies ÷ 3 cups of flour = 4 cookies per cup of flour. Now, if we want to find out how much flour is needed for 36 cookies, we can set up a proportion or calculate it directly: 1. We previously found that 1 cup of flour gives us 4 cookies, thus to find out how many cups are needed for 36 cookies, we can divide the total number of cookies by the number of cookies produced by 1 cup of flour: 36 cookies ÷ 4 cookies per cup = 9 cups of flour. Therefore, to make 36 cookies, 9 cups of flour are required. This is why 9 cups is the correct answer. The other options do not provide the right amount of flour needed based on the established ratio

5. If a concert ticket costs $45 and you buy 4 tickets, how much do you spend?

A. $180

B. $150

C. $200

D. $175

To determine the total amount spent on the concert tickets, you need to multiply the cost of a single ticket by the number of tickets purchased. In this case, each concert ticket costs $45, and four tickets are being bought. The calculation is as follows: Total Cost = Cost per Ticket × Number of Tickets Total Cost = $45 × 4 Now, performing the multiplication: $45 × 4 = $180 Thus, the total amount spent on the tickets is $180, confirming that the answer of $180 is correct. This demonstrates how multiplication can be used to find the total cost when multiple items are purchased at a uniform price.

6. You have a sheet of paper 8 1/2 in by 11 in. If you line 10 pieces of these papers side by side lengthwise, what is the perimeter of all the papers?

A. 237 in

B. 220 in

C. 180 in

D. 200 in

To find the perimeter of the arrangement when 10 sheets of paper, each measuring 8 1/2 inches by 11 inches, are lined up side by side lengthwise, first, we need to determine the dimensions of this arrangement. When the papers are lined up lengthwise (11 inches side), you will have the length increase while the width remains the same. Therefore, the total length of the arrangement will be the length of one piece of paper multiplied by the number of sheets: Total Length = 11 inches × 10 = 110 inches. The width remains the same as one piece of paper, which is 8 1/2 inches. Now, the perimeter \(P \) of a rectangle is calculated by the formula: \(P = 2 \times (Length + Width) \). Substituting the values we found: \(P = 2 \times (110 inches + 8.5 inches) \). Calculating that gives: \(P = 2 \times (118.5 inches) = 237 inches \). There seems to have been a misunderstanding regarding the value next presented in the choices. The correct perimeter calculation was misinterpreted. Whenever assessing an arithmetic reasoning problem involving dimensions and

7. If 3/16 of an inch represents 15 miles, how many inches represent 20 miles?

A. 1/2

B. 1/4

C. 1/8

D. 3/8

To determine how many inches represent 20 miles when 3/16 of an inch corresponds to 15 miles, we need to find the relationship between inches and miles. First, calculate how many inches represent one mile. Since 3/16 inch corresponds to 15 miles, you can express this as a ratio: 1 inch corresponds to \(\frac{15 \text{ miles}}{\frac{3}{16} \text{ inch}} = 15 \times \frac{16}{3} = 80 \text{ miles} \). Now we want to find out how many inches correspond to 20 miles. To do this, we set up a proportion based on the relationship established: If 1 inch = 80 miles, then for 20 miles: \[\text{Inches} = \frac{20 \text{ miles}}{80 \text{ miles/inch}} = \frac{20}{80} = \frac{1}{4} \text{ inches}. \] Hence, the amount of inches that represent 20 miles is exactly 1/4 inch. This is why the correct answer is 1/4, as it accurately represents the ratio derived from the initial measurements,

8. If it takes 5 workers 10 hours to complete a task, how long will it take 10 workers to complete the same task?

A. 5 hours

B. 10 hours

C. 15 hours

D. 20 hours

To determine how long it will take 10 workers to complete the same task, we can first calculate the total amount of work that needs to be done in worker-hours. If 5 workers complete the task in 10 hours, the total work can be expressed as: Total Work = Number of Workers × Time = 5 workers × 10 hours = 50 worker-hours. Now, if we have 10 workers, we can find out how long it will take them to complete the same amount of work. Using the formula: Time = Total Work / Number of Workers Substituting the numbers we have: Time = 50 worker-hours / 10 workers = 5 hours. This calculation shows that with twice the number of workers, the time taken to complete the task is halved. Therefore, with 10 workers, the task can be completed in 5 hours.

9. A train travels 60 miles in 1 hour. How far does it travel in 2.5 hours?

A. 120 miles

B. 150 miles

C. 180 miles

D. 200 miles

To find out how far the train travels in 2.5 hours, start by recognizing the speed of the train, which is 60 miles per hour. The distance covered can be calculated by multiplying speed by time. First, calculate the distance for the full hours. In 2 hours, the train would travel: 60 miles/hour × 2 hours = 120 miles. Next, determine the distance covered in the additional 0.5 hours (or half an hour): 60 miles/hour × 0.5 hours = 30 miles. Now, add the distances traveled in both parts of the journey: 120 miles + 30 miles = 150 miles. This means the correct distance the train travels in 2.5 hours is 150 miles, which corresponds to the second option. The other choices do not match the calculations based on the train's constant speed over the given time.

10. If a TV costs $600 and the tax rate is 7.75%, what was the amount of tax on the TV?

A. $51.75

B. $46.50

C. $48.25

D. $49.50

To determine the amount of tax on the TV priced at $600 with a tax rate of 7.75%, you need to calculate the tax by multiplying the price of the TV by the tax rate expressed as a decimal. First, convert the tax rate from a percentage to a decimal by dividing it by 100: 7.75% = 7.75 / 100 = 0.0775. Next, multiply the price of the TV by the decimal tax rate: Tax amount = Price × Tax rate Tax amount = $600 × 0.0775. When you perform the multiplication, you get: Tax amount = $600 × 0.0775 = $46.50. Therefore, the correct option reflects the accurate calculation of the tax amount at the given price and tax rate.