National Testing Network (NTN) Firefighter Testing System (FireTEAM) Math Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

Questions

1. **What is 30 minus 5 equal to?**

   A. 24

   B. 25

   C. 26

   D. 27

2. **What fraction represents 800 of 1300 on fire in simplest form?**

   A. 5/13

   B. 3/4

   C. 8/13

   D. 4/10

3. **A firefighter starts with 50 pounds of equipment and gains an additional 30 pounds. What is the total weight of the equipment?**

   A. 60 pounds

   B. 70 pounds

   C. 80 pounds

   D. 90 pounds

4. **If each section of hose is 50 feet long, what is the total length of 12 sections?**

   A. 500 feet

   B. 550 feet

   C. 600 feet

   D. 650 feet

5. **If a firefighter uses 25 feet of hose for each of 6 fire drills, how much hose is used in total?**

   A. 100 feet

   B. 120 feet

   C. 150 feet

   D. 180 feet

6. **What is the result of 30-14?**

    A. 18

    B. 17

    C. 16

    D. 15

7. **What is the smallest fraction that describes 150 out of 1600?**

    A. 3/40

    B. 1/10

    C. 5/80

    D. 1/20

8. **If 2,000 is compared to 200, what is this represented as a fraction?**

    A. 1/10

    B. 1/4

    C. 1/2

    D. 9/10

9. **What is the result of subtracting 24 from 30?**

    A. 6

    B. 4

    C. 18

    D. 22

10. **A fire department's budget is $200,000. If they spend $150,000, what percentage of the budget remains?**

    A. 50%

    B. 25%

    C. 10%

    D. 35%

Answers

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

Explanations

1. What is 30 minus 5 equal to?

A. 24

B. 25

C. 26

D. 27

To determine the result of 30 minus 5, you start with 30 and take away 5. This process involves subtracting the smaller number from the larger number.   When you perform the calculation: 30 - 5 = 25 The correct answer, therefore, is 25. It represents the total remaining after subtracting 5 from 30. Understanding basic subtraction is essential, as it forms a fundamental part of arithmetic that you will use in various mathematical contexts, including budgeting, measurements, and problem-solving situations in firefighting scenarios.

2. What fraction represents 800 of 1300 on fire in simplest form?

A. 5/13

B. 3/4

C. 8/13

D. 4/10

To simplify the fraction that represents 800 out of 1300, one starts by writing it as $\frac{800}{1300}$. The next step is to divide both the numerator and the denominator by their greatest common divisor (GCD).   Both numbers can be divided by 100, which is their GCD in this case: - $800 \div 100 = 8$ - $1300 \div 100 = 13$ Thus, $\frac{800}{1300}$ simplifies to $\frac{8}{13}$.   This simplification reveals that $\frac{8}{13}$ correctly expresses the proportion of 800 to 1300 in its simplest form. The other choices do not correspond to this simplification; specifically, $\frac{5}{13}$ and $\frac{3}{4}$ are incorrect representations of the fraction, and $\frac{4}{10}$ does not reflect this specific proportion as it reduces to $\frac{2}{5}$, which is not relevant in this context.   Thus, the correct representation in simplest form of 800 of 130

3. A firefighter starts with 50 pounds of equipment and gains an additional 30 pounds. What is the total weight of the equipment?

A. 60 pounds

B. 70 pounds

C. 80 pounds

D. 90 pounds

To find the total weight of the equipment, you simply add the initial weight of the equipment to the additional weight gained. In this scenario, the firefighter starts with 50 pounds of equipment and then gains an additional 30 pounds.   The calculation involves the following steps: 1. Start with the initial weight: 50 pounds. 2. Add the additional weight: 30 pounds. 3. Perform the addition: 50 pounds + 30 pounds = 80 pounds. Thus, the total weight of the equipment is 80 pounds. This process demonstrates the basic principle of addition, which is fundamental in various situations, including calculating total loads or weights in the firefighting profession.

4. If each section of hose is 50 feet long, what is the total length of 12 sections?

A. 500 feet

B. 550 feet

C. 600 feet

D. 650 feet

To determine the total length of 12 sections of hose, knowing that each section is 50 feet long, you can simply multiply the number of sections by the length of each section. The mathematical expression for this is: Total length = Number of sections × Length of each section So, by substituting the numbers, you get: Total length = 12 sections × 50 feet/section = 600 feet This calculation shows that the total length of the hose is 600 feet, which confirms that the answer is correct. Understanding this method of multiplying quantities can be incredibly useful in real-world scenarios, especially in firefighting, where hose lengths and deployment strategies can vary significantly.

5. If a firefighter uses 25 feet of hose for each of 6 fire drills, how much hose is used in total?

A. 100 feet

B. 120 feet

C. 150 feet

D. 180 feet

To determine the total amount of hose used, you multiply the length of hose used for each fire drill by the number of fire drills conducted. In this case, the firefighter uses 25 feet of hose for each drill and participates in 6 drills.   Calculating this involves the formula: Total hose used = Length of hose per drill × Number of drills   Total hose used = 25 feet × 6 drills = 150 feet This calculation shows that the firefighter uses a total of 150 feet of hose for all 6 drills, making this the correct answer. The other options suggest either too little or too much hose based on the same multiplication facts, emphasizing that understanding the basic multiplication principle is key to solving this problem correctly.

6. What is the result of 30-14?

A. 18

B. 17

C. 16

D. 15

To find the result of 30 minus 14, you start with the number 30 and subtract 14 from it. When you perform the subtraction, you can break it down into smaller parts for easier computation: 30 - 10 equals 20, and then you need to subtract an additional 4 (since 14 is 10 plus 4), which takes you to 20 - 4.   Calculating this gives you 20 - 4 equals 16. Thus, the correct answer, which represents the total difference after performing the subtraction, is 16. It confirms that when you take 14 away from 30, you are left with 16.

7. What is the smallest fraction that describes 150 out of 1600?

A. 3/40

B. 1/10

C. 5/80

D. 1/20

To determine the smallest fraction that represents 150 out of 1600, you first convert the fraction into its simplest form by finding the greatest common divisor (GCD) of the numerator (150) and the denominator (1600). 1. **Finding the GCD**: You can do this by factoring both numbers.   - The prime factorization of 150 is $2 \times 3 \times 5^2$.   - The prime factorization of 1600 is $2^6 \times 5^2$. 2. **Identifying common factors**: The common factors in these factorizations are 2 and 5^2. Therefore, the GCD is $2 \times 5^2 = 2 \times 25 = 50$. 3. **Simplifying the fraction**: Now you divide both the numerator and the denominator by the GCD: - $150 \div 50 = 3$ - $1600 \div 50 = 32$ This gives you the fraction $\frac{3}{32}$. Next, we need to assess which of the given options can be expressed as a fraction equivalent

8. If 2,000 is compared to 200, what is this represented as a fraction?

A. 1/10

B. 1/4

C. 1/2

D. 9/10

To determine how 2,000 compares to 200 when represented as a fraction, we start by understanding the relationship between the two numbers. When comparing two quantities as a fraction, we set up the fraction with the first number (2,000) as the numerator and the second number (200) as the denominator.   Thus, we form the fraction: $\[\frac{2000}{200} \]$ Next, we simplify this fraction. To do this, we can divide both the numerator and the denominator by the same number. In this case, we can divide by 200: $\[\frac{2000 \div 200}{200 \div 200} = \frac{10}{1} \]$ This simplification shows that 2000 is actually 10 times larger than 200, which can also be expressed as the whole number 10, or, in terms of a fraction, it can imply the part of a whole. To express 200 as a fraction of 2,000, we can invert our perspective: $\[\frac{200}{2000} \]$ Now, simplifying this, we divide both the numerator and the denominator by 200: $\[\frac{200 \$

9. What is the result of subtracting 24 from 30?

A. 6

B. 4

C. 18

D. 22

To determine the result of subtracting 24 from 30, you simply need to perform the operation 30 - 24. When you do this calculation, you start with 30 and remove 24 from it. First, visualize or calculate 30 minus 20, which gives you 10. Then, since you still need to subtract an additional 4, you take 10 and subtract 4 from it. This brings you to 6. Thus, the computation leads you to the final answer of 6, demonstrating why subtracting 24 from 30 results in this value. Understanding the process of subtraction—removing a certain quantity from a larger quantity—is essential for approaching similar math problems effectively.

10. A fire department's budget is $200,000. If they spend $150,000, what percentage of the budget remains?

A. 50%

B. 25%

C. 10%

D. 35%

To determine the percentage of the budget that remains after spending, first calculate the remaining amount of the budget. The fire department initially has a budget of $200,000. After spending $150,000, the remaining budget can be calculated as follows: Remaining budget = Initial budget - Amount spent   Remaining budget = $200,000 - $150,000   Remaining budget = $50,000. Next, to find out what percentage this remaining amount is of the original budget, you can use the formula for percentage: Percentage remaining = (Remaining amount / Original budget) × 100. Plugging in the numbers: Percentage remaining = ($50,000 / $200,000) × 100   Percentage remaining = 0.25 × 100   Percentage remaining = 25%. Therefore, the fire department has 25% of its budget remaining after the expenditure. This explanation clarifies the calculation process used to determine the correct answer.