# Practice Worksheet on Proportions

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## Long Answer Questions

1. Explain what a proportion is and provide a real-world example of its application.

2. Describe the steps to determine if a given proportion is true or false.

3. Explain the process of cross-multiplication in proportions and its significance.

4. Detail how to find an unknown quantity in a proportion, showing the steps involved with an example.

5. Discuss the applications of proportions in solving real-world problems and provide examples.

## Multiple Choice Questions

1. Which of the following is a simplified form of the proportion 12 inches/36 inches = 1 foot/3 feet?

a) 12/36 = 1/3
b) 12/36 = 2/3
c) 12/36 = 3/1
d) 12/36 = 12/36

2. Is the proportion 4/5 = 6/8 true or false?

a) True
b) False
c) Cannot be determined
d) Partially true

3. To determine if a proportion is true, you can use which method?

a) Add the numerators and denominators
b) Cross-multiply
c) Divide the numerators by the denominators
d) Subtract the denominators from the numerators

4. Solve for n in this proportion: n/25 = 4/20

a) 10
b) 5
c) 2
d) 20

5. A photograph has a width of 5 inches and a length of 8 inches. If you enlarge the width to 10 inches, what is the new length?

a) 16
b) 8
c) 24
d) 10

# Answer Key

## Long Answer Questions - Expected Responses

1. Explain what a proportion is and provide a real-world example of its application.

Expected Answer: A proportion is an equation stating two ratios are equal; it helps solve problems involving scaling and consistent features.

2. Describe the steps to determine if a given proportion is true or false.

Expected Answer: To determine if a proportion is true, check for consistent units, simplify fractions, and compare for equivalence.

3. Explain the process of cross-multiplication in proportions and its significance.

Expected Answer: Cross-multiplication involves multiplying the numerator of one ratio by the denominator of the other, and vice-versa. If the products are equal, the proportion is true.

4. Detail how to find an unknown quantity in a proportion, showing the steps involved with an example.

Expected Answer: In solving for an unknown, cross-multiply to form an equation. Then, isolate the variable and find the solution by dividing both sides.

5. Discuss the applications of proportions in solving real-world problems and provide examples.

Expected Answer: Proportions are useful in solving various real-world problems by establishing a relationship between known and unknown quantities.

## Multiple Choice Questions - Correct Answers

1. Which of the following is a simplified form of the proportion 12 inches/36 inches = 1 foot/3 feet?

Correct Answer: 12/36 = 1/3

2. Is the proportion 4/5 = 6/8 true or false?

Correct Answer: False

3. To determine if a proportion is true, you can use which method?

Correct Answer: Cross-multiply

4. Solve for n in this proportion: n/25 = 4/20

Correct Answer: 5

5. A photograph has a width of 5 inches and a length of 8 inches. If you enlarge the width to 10 inches, what is the new length?

Correct Answer: 16