

# Proportions Worksheet

## Proportions Worksheet

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## Part 1: Building a Foundation

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### What is a proportion?

*Hint: Think about the definition of a proportion in terms of ratios.*

- A) A comparison of two numbers by addition
- B) An equation stating two ratios are equivalent
- C) A comparison of two numbers by subtraction
- D) An equation stating two numbers are equal

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### Which of the following are examples of ratios?

*Hint: Look for expressions that compare two quantities.*

- A) 3:4
- B) 5/6
- C) 7+8
- D) 9-2

### Which of the following are examples of ratios?

*Hint: Look for comparisons of two quantities.*

- A) 3:4

- B)  $\frac{5}{6}$
- C)  $7+8$
- D)  $9-2$

**Explain how you can determine if two ratios form a proportion.**

*Hint: Consider the cross-multiplication method.*

**Explain how you can determine if two ratios form a proportion.**

*Hint: Consider cross-multiplication or equivalent fractions.*

**List two real-life applications of proportions.**

*Hint: Think about cooking or scaling models.*

1. Application 1

2. Application 2

**What method is commonly used to solve proportions?**

*Hint: Consider the mathematical operations that relate ratios.*

- A) Addition

- B) Subtraction
- C) Cross-multiplication
- D) Division

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## Part 2: Understanding and Interpretation

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**Which statements are true about proportions?**

*Hint: Consider the applications of proportions in various fields.*

- A) They can be used to scale recipes.
- B) They are only applicable in mathematics.
- C) They help in creating maps.
- D) They are not useful in real life.

**Which statements are true about proportions?**

*Hint: Consider their applications in various fields.*

- A) They can be used to scale recipes.
- B) They are only applicable in mathematics.
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- D) They are not useful in real life.

**Describe a scenario where you might use proportions to solve a problem.**

*Hint: Think about everyday situations that involve comparisons.*

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*Hint: Think about everyday situations.*

### Part 3: Application and Analysis

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**If a map scale is 1 inch = 10 miles, how many miles does 5 inches represent?**

*Hint: Use the scale to calculate the distance.*

- A) 15 miles
- B) 50 miles
- C) 5 miles
- D) 100 miles

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**You have a recipe that requires 2 cups of flour for 3 servings. How much flour is needed for 9 servings?**

*Hint: Think about scaling the recipe up.*

- A) 4 cups
- B) 6 cups
- C) 9 cups
- D) 12 cups

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- C) 9 cups
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**Solve the proportion:  $4/x = 8/16$ . Show your work.**

*Hint: Use cross-multiplication to solve.*

**Solve the proportion:  $4/x = 8/16$ . Show your work.**

*Hint: Use cross-multiplication to find  $x$ .*

**Which graph correctly represents a proportional relationship?**

*Hint: Consider the characteristics of proportional graphs.*

- A) A curved line
- B) A straight line not passing through the origin
- C) A straight line passing through the origin
- D) A horizontal line

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**In a directly proportional relationship, which of the following is true?**

*Hint: Think about how the quantities relate to each other.*

- A) As one quantity increases, the other decreases.
- B) The graph is a straight line through the origin.
- C) The ratio of the two quantities remains constant.
- D) The graph is a curve.

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**Analyze the relationship between time and distance in a speed problem. How does proportion help in solving such problems?**

*Hint: Consider the formula for speed.*

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## Part 4: Evaluation and Creation

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**Evaluate the following statements about proportions:**

*Hint: Consider the importance of proportions in various fields.*

- A) They are essential for creating accurate models.
- B) They are not useful in scientific experiments.
- C) They can predict outcomes in financial planning.
- D) They are irrelevant in technology development.

**Evaluate the following statements about proportions:**

*Hint: Consider their applications in various fields.*

- A) They are essential for creating accurate models.
- B) They are not useful in scientific experiments.
- C) They can predict outcomes in financial planning.
- D) They are irrelevant in technology development.

**Create a real-world problem that involves proportions and solve it. Explain your reasoning and solution process.**

*Hint: Think about a situation where you need to compare quantities.*

**Create a real-world problem that involves proportions and solve it. Explain your reasoning and solution process.**

*Hint: Think about everyday situations where proportions apply.*