

Graphing Proportional Relationships Worksheet Answer Key PDF

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Part 1: Building a Foundation

What is the equation form of a proportional relationship?

undefined. A) $y = mx + b$

undefined. B) $y = kx$ ✓

undefined. C) $y = x + c$

undefined. D) $y = kx + c$

The correct equation form of a proportional relationship is $y = kx$.

What is the equation form of a proportional relationship?

undefined. A) $y = mx + b$

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undefined. A) $y = x + c$

undefined. A) $y = kx + c$

The correct answer is B) $y = kx$, which represents a proportional relationship.

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The correct answer is B) $y = kx$, which represents a proportional relationship.

Which of the following are characteristics of a graph representing a proportional relationship?

undefined. A) The graph is a straight line. ✓

undefined. B) The graph passes through the origin. ✓

undefined. C) The graph has a slope of zero.

undefined. D) The graph has a constant slope. ✓

A graph representing a proportional relationship is a straight line that passes through the origin and has a constant slope.

Which of the following are characteristics of a graph representing a proportional relationship?

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The correct answers are A, B, and D.

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The correct answers are A, B, and D.

Explain what is meant by the 'constant of proportionality' in a proportional relationship.

The constant of proportionality is the ratio between the two variables in a proportional relationship.

Explain what is meant by the 'constant of proportionality' in a proportional relationship.

The constant of proportionality is the ratio between two proportional quantities.

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The constant of proportionality is the ratio between two proportional quantities.

Part 2: Understanding and Interpretation

If a graph of a relationship does not pass through the origin, what can you conclude about the relationship?

undefined. A) It is proportional.

undefined. B) It is not proportional. ✓

undefined. C) It has a constant of proportionality of zero.

undefined. D) It has a negative slope.

If a graph does not pass through the origin, the relationship is not proportional.

If a graph of a relationship does not pass through the origin, what can you conclude about the relationship?

undefined. A) It is proportional.

undefined. A) It is not proportional. ✓

undefined. A) It has a constant of proportionality of zero.

undefined. A) It has a negative slope.

The correct answer is B) It is not proportional.

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undefined. A) It has a constant of proportionality of zero.

undefined. A) It has a negative slope.

The correct answer is B) It is not proportional.

Which of the following tables of values represent a proportional relationship?

undefined. A) x: 1, 2, 3; y: 2, 4, 6 ✓

undefined. B) x: 1, 2, 3; y: 3, 6, 9 ✓

undefined. C) x: 1, 2, 3; y: 1, 3, 5

undefined. D) x: 1, 2, 3; y: 2, 5, 8

Tables A and B represent proportional relationships because they have a constant ratio.

Which of the following tables of values represent a proportional relationship?

undefined. A) x: 1, 2, 3; y: 2, 4, 6 ✓

undefined. A) x: 1, 2, 3; y: 3, 6, 9 ✓

undefined. A) x: 1, 2, 3; y: 1, 3, 5

undefined. A) x: 1, 2, 3; y: 2, 5, 8

The correct answers are A and B.

Which of the following tables of values represent a proportional relationship?

undefined. A) x: 1, 2, 3; y: 2, 4, 6 ✓

undefined. A) x: 1, 2, 3; y: 3, 6, 9 ✓

undefined. A) x: 1, 2, 3; y: 1, 3, 5

undefined. A) x: 1, 2, 3; y: 2, 5, 8

The correct answers are A and B.

Describe how you would determine the constant of proportionality from a graph.

To determine the constant of proportionality from a graph, you can find the slope of the line, which represents the ratio of y to x.

Describe how you would determine the constant of proportionality from a graph.

You can determine the constant of proportionality by finding the slope of the line on the graph.

Describe how you would determine the constant of proportionality from a graph.

You can determine the constant of proportionality by finding the ratio of y to x for any point on the line.

Part 3: Application and Analysis

Given the equation $y = 5x$, what is the constant of proportionality?

undefined. A) 1

undefined. A) 5 ✓

undefined. A) 0

undefined. A) x

The correct answer is B) 5.

Given the equation $y = 5x$, what is the constant of proportionality?

undefined. A) 1

undefined. B) 5 ✓

undefined. C) 0

undefined. D) x

The constant of proportionality in the equation $y = 5x$ is 5.

Given the equation $y = 5x$, what is the constant of proportionality?

undefined. A) 1

undefined. A) 5 ✓

undefined. A) 0

undefined. A) x

The correct answer is B) 5.

If a car travels at a constant speed and the distance-time graph is a straight line through the origin, which of the following statements are true?

undefined. A) The speed is the constant of proportionality. ✓

undefined. B) The distance is directly proportional to time. ✓

undefined. C) The graph has a constant slope. ✓

undefined. D) The car's speed changes over time.

The statements A, B, and C are true; they describe the characteristics of a proportional relationship.

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The correct answers are A, B, and C.

A recipe calls for 3 cups of flour for every 2 cups of sugar. Write the equation representing the proportional relationship between flour and sugar.

The equation representing the relationship is $y = (3/2)x$, where y is the amount of flour and x is the amount of sugar.

A recipe calls for 3 cups of flour for every 2 cups of sugar. Write the equation representing the proportional relationship between flour and sugar.

The equation can be written as $y = (3/2)x$, where y represents flour and x represents sugar.

A recipe calls for 3 cups of flour for every 2 cups of sugar. Write the equation representing the proportional relationship between flour and sugar.

The equation can be written as $f = (3/2)s$, where f is flour and s is sugar.

Part 4: Evaluation and Creation

If the slope of a proportional relationship graph is 3, what does this tell you about the relationship?

undefined. A) For every 1 unit increase in x, y increases by 3 units. ✓

undefined. B) For every 3 unit increase in x, y increases by 1 unit.

undefined. C) The relationship is not proportional.

undefined. D) The graph does not pass through the origin.

A slope of 3 means that for every 1 unit increase in x, y increases by 3 units.

If the slope of a proportional relationship graph is 3, what does this tell you about the relationship?

undefined. A) For every 1 unit increase in x, y increases by 3 units. ✓

undefined. A) For every 3 unit increase in x, y increases by 1 unit.

undefined. A) The relationship is not proportional.

undefined. A) The graph does not pass through the origin.

The correct answer is A) For every 1 unit increase in x, y increases by 3 units.

If the slope of a proportional relationship graph is 3, what does this tell you about the relationship?

undefined. A) For every 1 unit increase in x, y increases by 3 units. ✓

undefined. A) For every 3 unit increase in x, y increases by 1 unit.

undefined. A) The relationship is not proportional.

undefined. A) The graph does not pass through the origin.

The correct answer is A) For every 1 unit increase in x, y increases by 3 units.

Analyze the following scenarios and identify which ones describe a proportional relationship:

undefined. A) The cost of apples is \$2 per apple. ✓

undefined. B) The temperature increases by 5 degrees every hour. ✓

undefined. C) The number of pages read increases by 10 for every hour spent reading. ✓

undefined. D) The speed of a car is constant at 60 mph. ✓

Scenarios A, B, C, and D all describe proportional relationships.

Analyze the following scenarios and identify which ones describe a proportional relationship:

undefined. A) The cost of apples is \$2 per apple. ✓

undefined. A) The temperature increases by 5 degrees every hour. ✓

undefined. A) The number of pages read increases by 10 for every hour spent reading. ✓

undefined. A) The speed of a car is constant at 60 mph. ✓

The correct answers are A, B, C, and D.

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undefined. **A) The cost of apples is \$2 per apple. ✓**

undefined. **A) The temperature increases by 5 degrees every hour. ✓**

undefined. **A) The number of pages read increases by 10 for every hour spent reading. ✓**

undefined. **A) The speed of a car is constant at 60 mph. ✓**

The correct answers are A, B, C, and D.

Which of the following statements best evaluates the nature of a proportional relationship?

undefined. A) It is a linear relationship with a non-zero y-intercept.

undefined. **A) It is a linear relationship with a constant slope and passes through the origin. ✓**

undefined. A) It is a non-linear relationship with a constant ratio.

undefined. A) It is a relationship where y is always greater than x.

The correct answer is B) It is a linear relationship with a constant slope and passes through the origin.

Which of the following statements best evaluates the nature of a proportional relationship?

undefined. A) It is a linear relationship with a non-zero y-intercept.

undefined. **B) It is a linear relationship with a constant slope and passes through the origin. ✓**

undefined. C) It is a non-linear relationship with a constant ratio.

undefined. D) It is a relationship where y is always greater than x.

The best evaluation is that a proportional relationship is a linear relationship with a constant slope and passes through the origin.

Which of the following statements best evaluates the nature of a proportional relationship?

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undefined. A) It is a non-linear relationship with a constant ratio.

undefined. A) It is a relationship where y is always greater than x.

The correct answer is B) It is a linear relationship with a constant slope and passes through the origin.

Create a scenario that represents a proportional relationship. Which of the following elements would you include?

undefined. **A) A constant rate of change. ✓**

undefined. **A) A graph that passes through the origin. ✓**

undefined. **A) A variable y that is directly proportional to x . ✓**

undefined. A) A changing slope.

The correct answers are A, B, and C.

Create a scenario that represents a proportional relationship. Which of the following elements would you include?

undefined. **A) A constant rate of change. ✓**

undefined. **B) A graph that passes through the origin. ✓**

undefined. **C) A variable y that is directly proportional to x . ✓**

undefined. D) A changing slope.

You would include elements such as a constant rate of change, a graph that passes through the origin, and a variable y that is directly proportional to x .

Create a scenario that represents a proportional relationship. Which of the following elements would you include?

undefined. **A) A constant rate of change. ✓**

undefined. **A) A graph that passes through the origin. ✓**

undefined. **A) A variable y that is directly proportional to x . ✓**

undefined. A) A changing slope.

The correct answers are A, B, and C.

Design a real-world problem involving a proportional relationship and explain how you would solve it using a graph.

You would create a graph that shows the relationship between the two quantities and use it to find solutions.

Design a real-world problem involving a proportional relationship and explain how you would solve it using a graph.

You could design a problem involving speed and distance, and solve it by plotting the distance on the y-axis and time on the x-axis.

Design a real-world problem involving a proportional relationship and explain how you would solve it using a graph.

You would create a graph that shows the relationship between the two quantities and use it to find solutions.