

Name \_\_\_\_\_

## Topic: Identifying the Constant of Proportionality

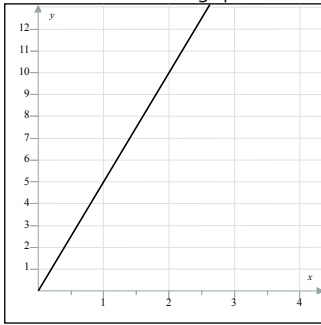
1. A car moves uniformly at the same speed. The duration of the journey is proportional to the distance traveled. -----

a. Complete the following table:

Distance (in km)	52	104	156	<input type="text"/>
Time (in hours)	1	<input type="text"/>	<input type="text"/>	5

b. What is the constant of proportionality in the table above?

2. Answer the following questions in relation to the graph shown: -----



a. What tells you that the graph is directly proportional?

- A The line passes through the origin, is a straight line graph, and the slope is positive.
- B The line passes through the origin, is a straight line graph, and the slope is negative.

b. Identify the constant of proportionality of the graphed line.

c. Choose the appropriate answer to fill in the blank:

The constant of proportionality is the same as the \_\_\_\_\_ of the graph.

- A Intercept       B Slope

3. Consider the equation:  $y = 14x$ . -----

a. What is the constant of proportionality for the given equation?

b. How do you know that this equation is directly proportional? There may be more than one correct option.

- A The slope is positive.       B The y-intercept is 0.
- C The slope is bigger than one.

4. In the following proportionality table, the second row is obtained by multiplying the top row by the constant of proportionality. Complete the table and find that constant.

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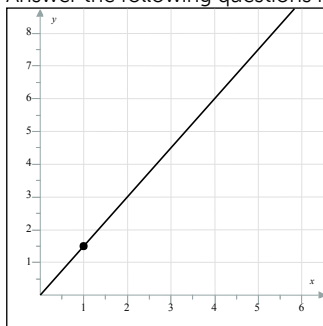
a. Complete the table:

7	8	12	<input type="text"/>
<input type="text"/>	56	<input type="text"/>	91

b. What is the constant of proportionality?

5. Answer the following questions in relation to the graph shown:

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a. What tells you that the graph is directly proportional?

- A The line passes through the origin, is a straight line graph, and the slope is positive.
- B The line passes through the origin, is a straight line graph, and the slope is negative.

b. Identify the constant of proportionality of the graphed line.

c. Select the answer to complete the following sentence.  
The constant of proportionality is the same as the graph's:

- A Intercept       B Slope

6. Identify the constant of proportionality in the equation  $a = 19.5b$ .

7. Roxanne realizes that when she listens to her favorite radio station that they play 27 songs in 9 hours, and they play 81 songs in 27 hours.

Assume that the radio station plays the same amount of songs every hour.  
Calculate the constant of proportionality.

8. A coffee shop found that the amount of sugar used is proportional to the amount of coffee sold. The table below shows the amount of cups of sugar used and the amount of cups of coffees sold. Complete the table and find the constant of proportionality. -----

a. Complete the table:

Number of packs of sugar used	5	8	10	<input type="text"/>
Number of cups of coffee sold	<input type="text"/>	32	<input type="text"/>	52

b. What is the constant of proportionality?

9. The number of cookies ( $y$ ) consumed by  $x$  teachers in a staffroom can be calculated using the equation  $y = 12x$ . -----

According to this equation, how many cookies does each teacher consume?

10. Tom is making batches of bread rolls. He knows he can make 48 bread rolls in 8 hours, and 192 bread rolls in 32 hours.

What is the constant of proportionality?