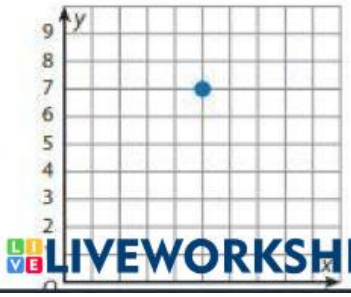
Prepare for Representing Proportional Relationships

1. Think about what you know about graphing. Fill in each box. Use words, numbers, and pictures. Show as many ideas as you can.

Word	In My Own Words	Example
***x*-coordinate**		
***y*-coordinate**		
ordered pair		
origin		

2. Fadil says that the ordered pair for the point shown is (7, 5). Explain why Fadil is incorrect.



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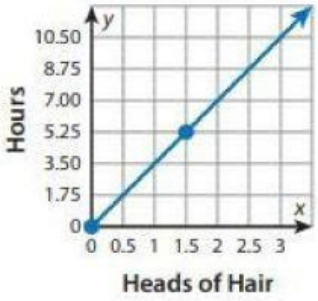
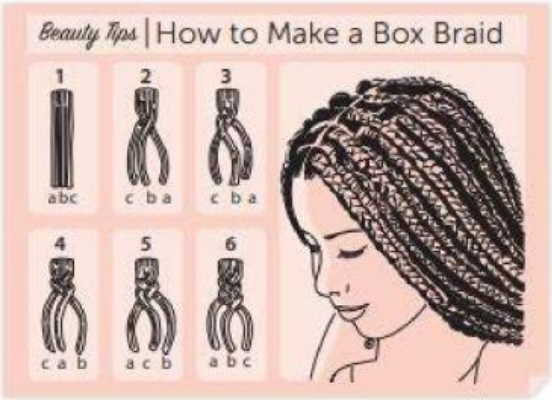
10 Ellema's little sisters want box braids. They complain that Ellema braids too slowly. So, she makes a graph to show them how fast she is.





a. What does the point (0, 0) mean?

b. What does the point (1.5, 5.25) mean?

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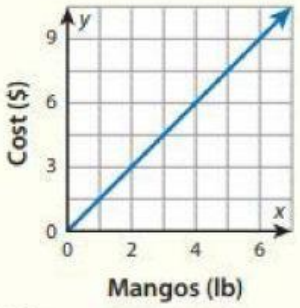
Relationships

➤ **Study the Example showing how to interpret a graph of a proportional relationship. Then solve problems 1–5.**

Example

The graph shows the proportional relationship between the pounds of mangos bought and the cost. What do the points (0, 0) and (3, 4.5) mean in this situation? What is the constant of proportionality for this relationship?

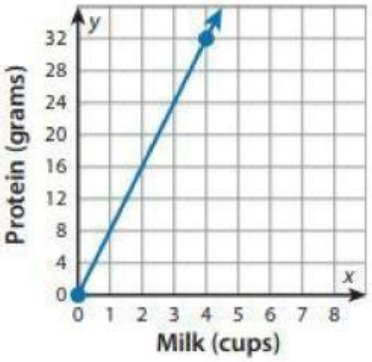


The point (0, 0) means that 0 pounds of mangos cost $0.

The point (3, 4.5) means that 3 pounds of mangos cost $4.50.

Look for the point on the line with the *x*-coordinate of 1. The *y*-coordinate of this point is the constant of proportionality. The line passes through the point (1, 1.5). So, the constant of proportionality is 1.5.

1. The graph shows the proportional relationship between grams of protein and cups of milk.

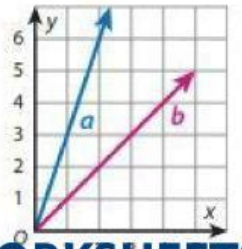


   a. What is the constant of proportionality for the relationship between grams of protein and cups of milk?

   b. What does the point (0, 0) mean in this situation?

   c. What does the point (4, 32) mean in this situation?

2. Both lines on the graph represent proportional relationships. What is the constant of proportionality for each relationship? Explain how you know.



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