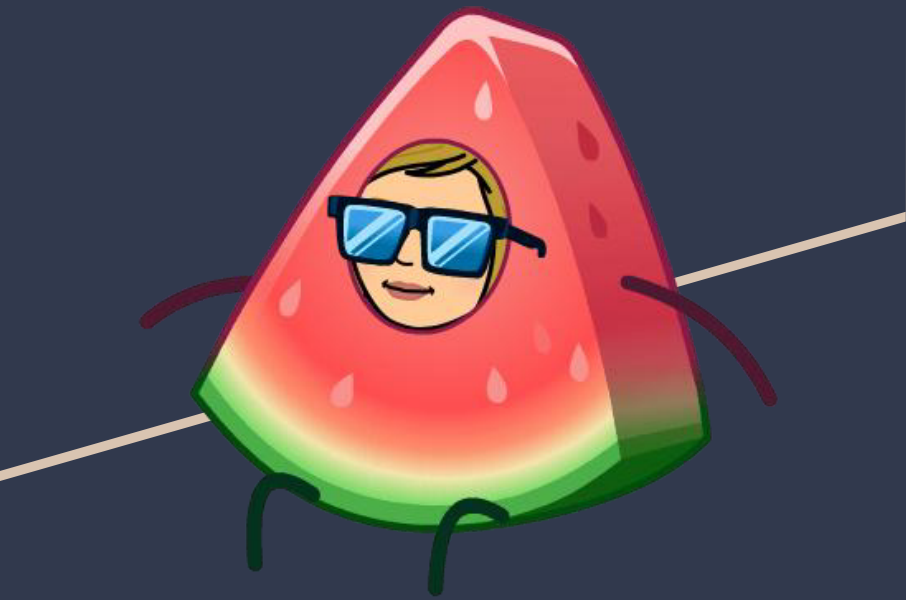
Today's Materials



- calculator
- pencil
- notebook
- glue
- ruler
- highlighter
- (device)

Interpreting Graphs of Proportional Relationships

Lesson 11

CCSS Standards: Addressing	• 7.RP.A • 7.RP.A.2 • 7.RP.A.2.d

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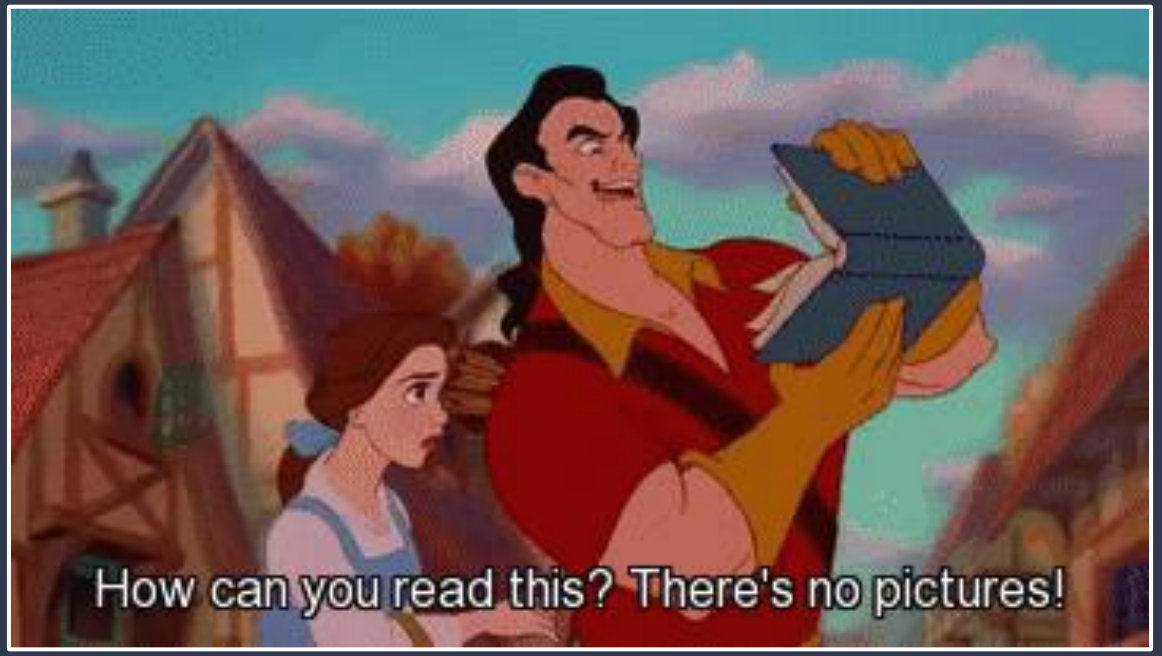
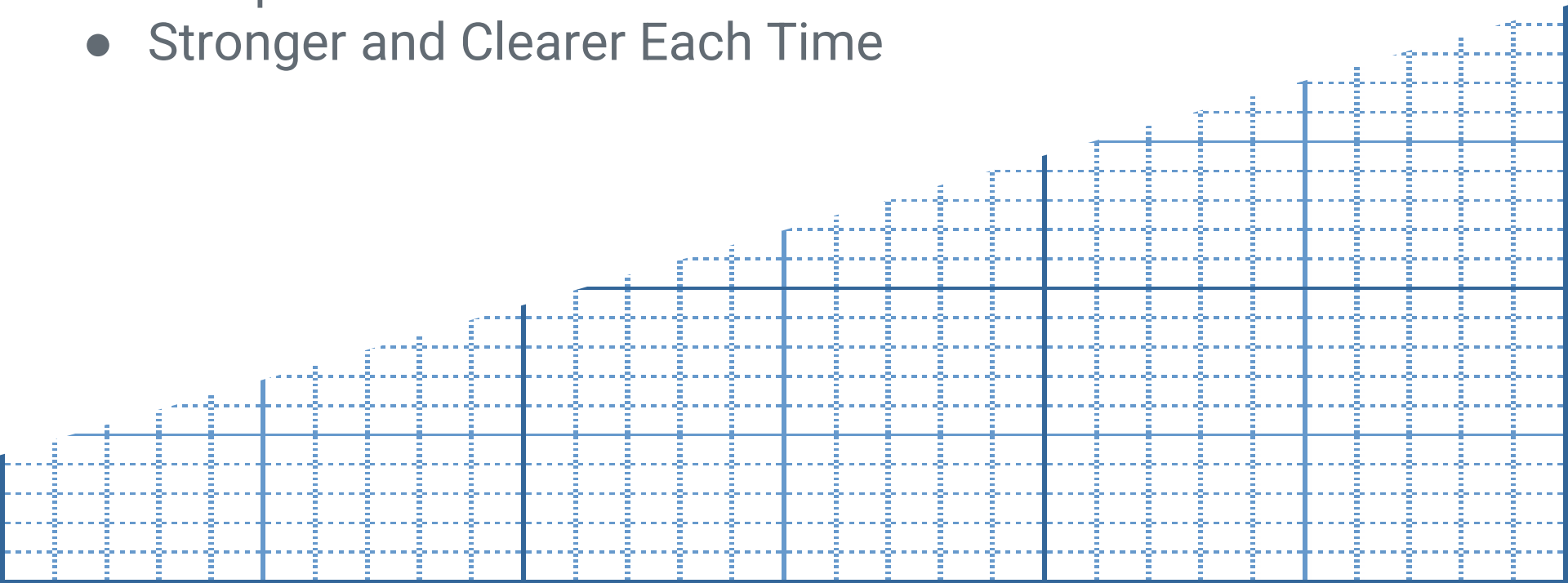
Let’s read stories from the graphs of proportional relationships!



What Could the Graph Represent?

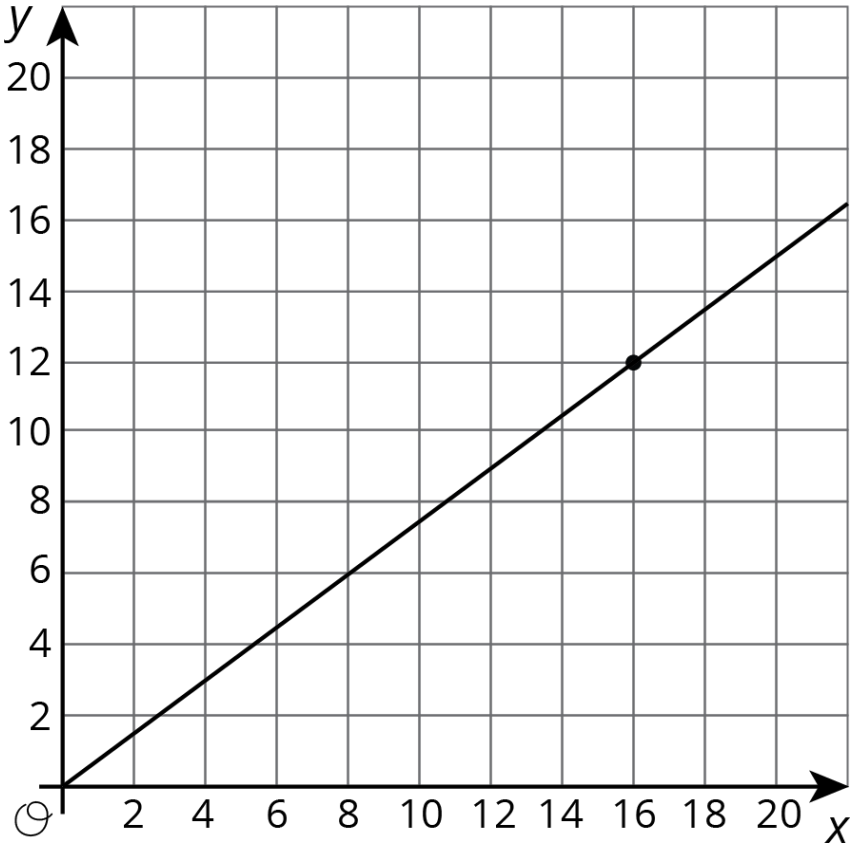
Warm Up

- Stronger and Clearer Each Time



1. Invent a situation that could be represented by this graph.
2. Label the axes with the quantities in your situation.
3. Give the graph a title.
4. There is a point on the graph. What are its coordinates? What does it represents in your situation?

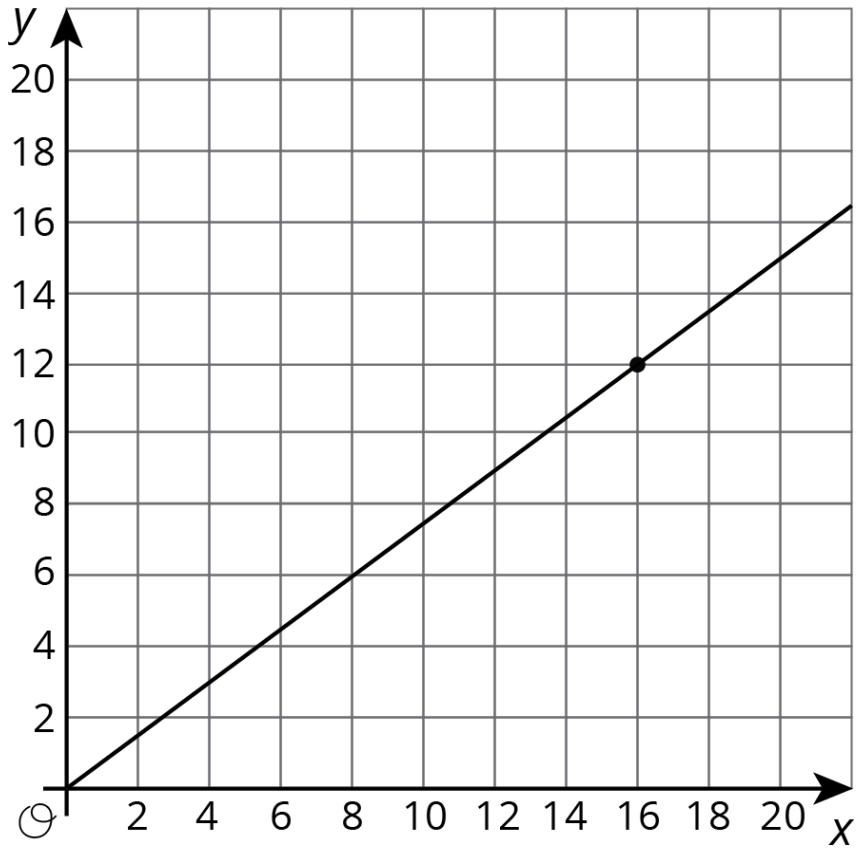
Here is a graph that represents a proportional relationship.



Think about all the different situations we shared.

- How were they all different?
- What did they have in common?
- What things are <u>always true</u> about proportional relationships?

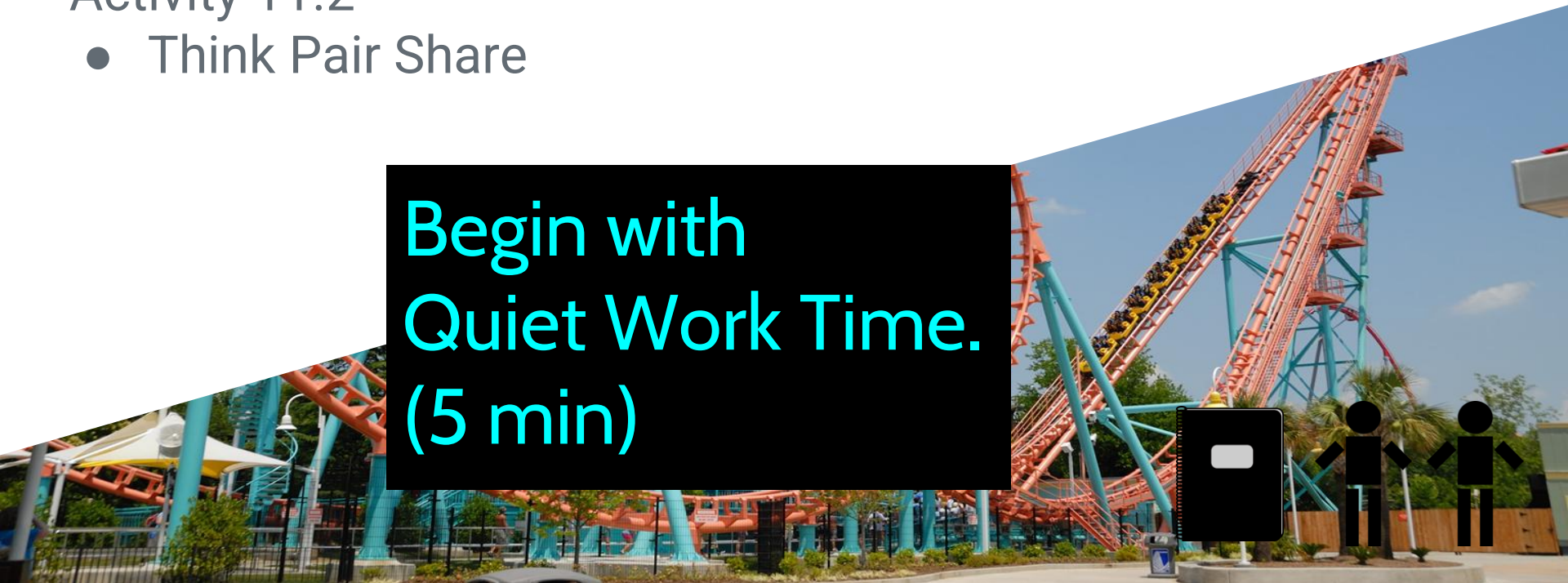
Here is a graph that represents a proportional relationship.



Tyler's Walk

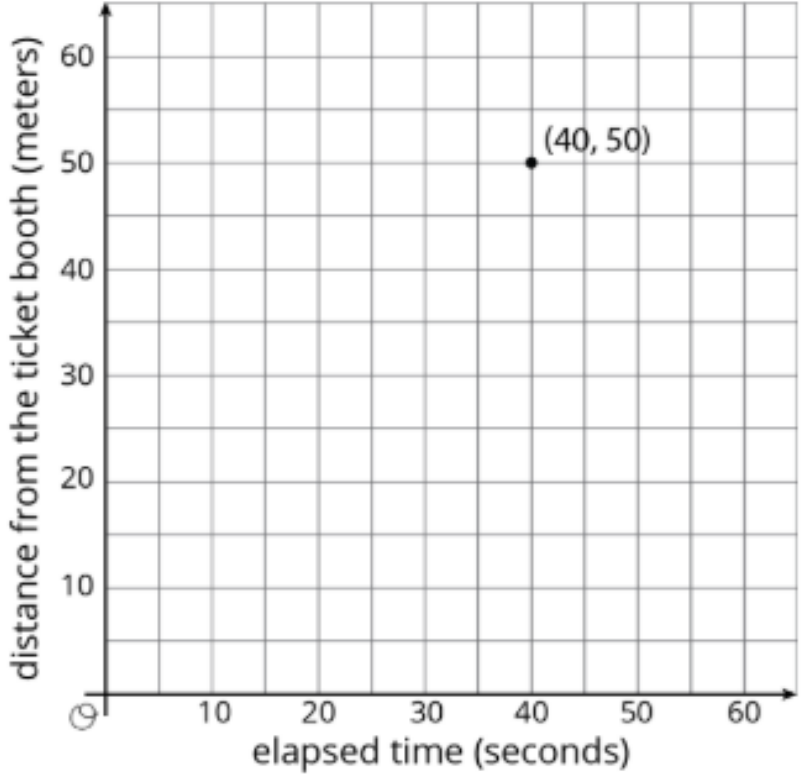
Activity 11.2

- Think Pair Share



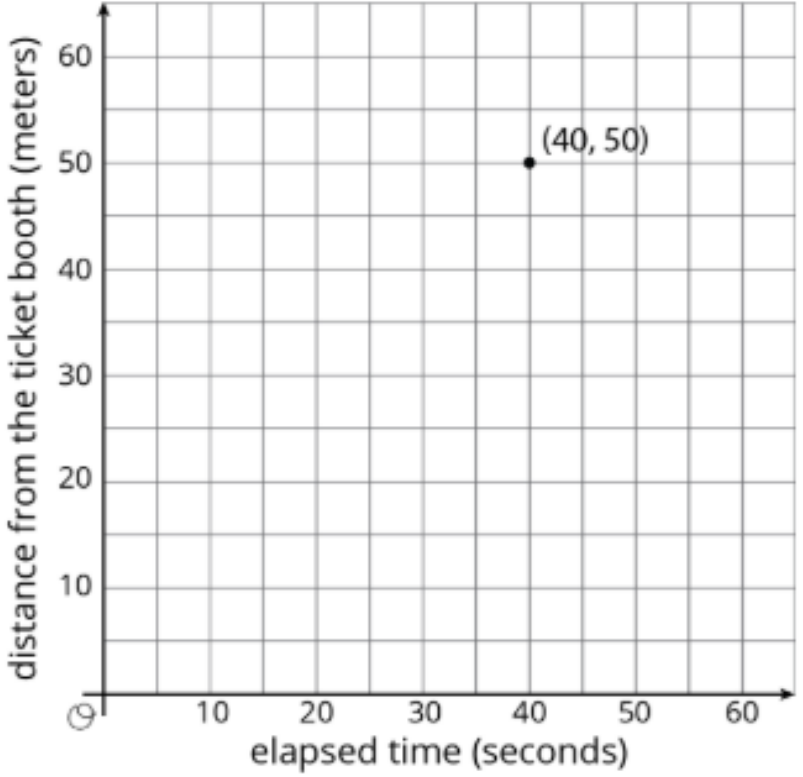
What quantities are shown in the graph?

time (seconds)	distance (meters)
0	0
20	25
30	37.5
40	50
1	



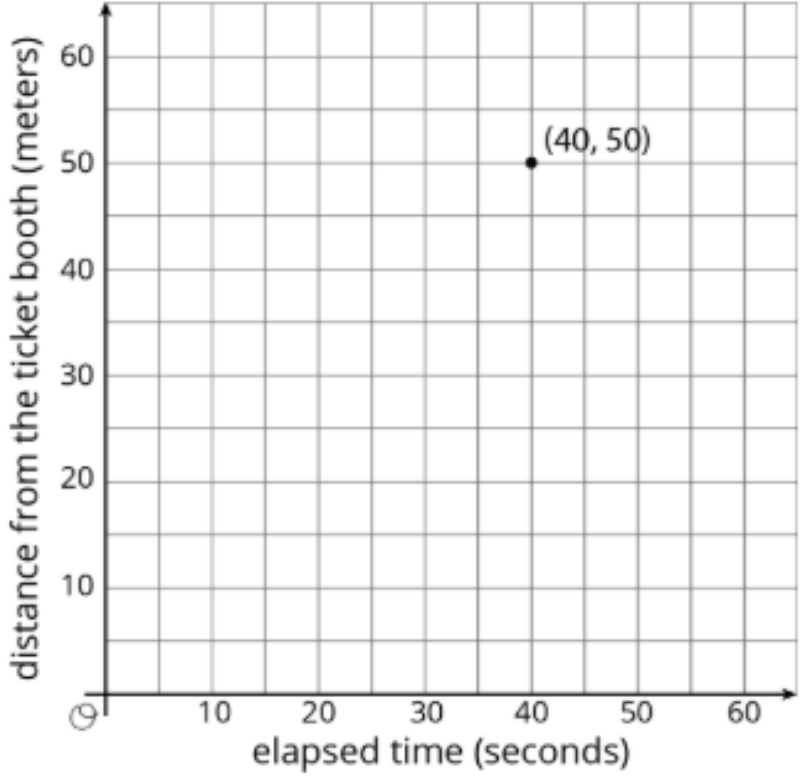
How far is the ticket booth from the bumper cars?

time (seconds)	distance (meters)
0	0
20	25
30	37.5
40	50
1	



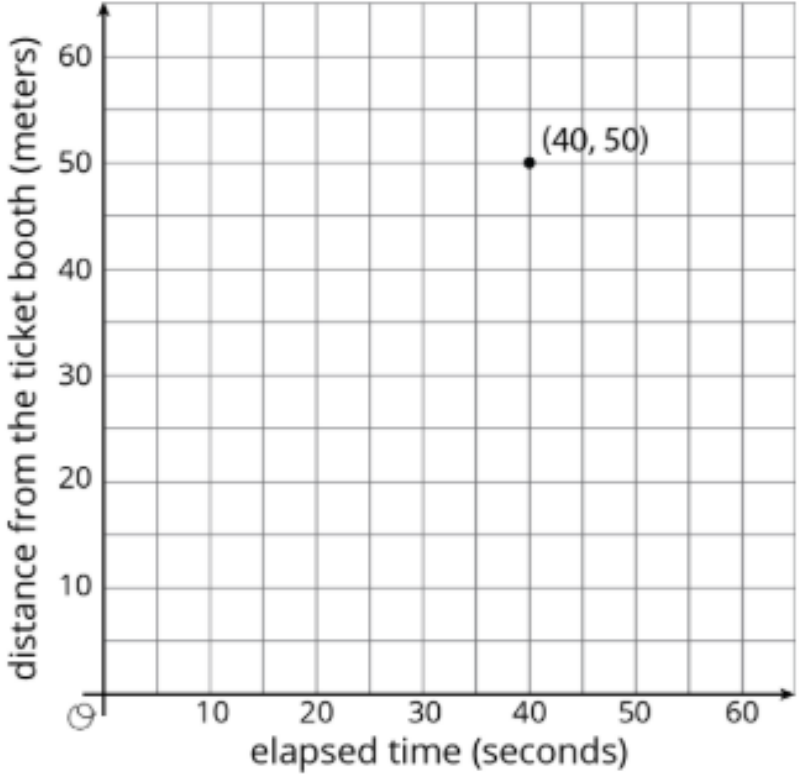
Do the values in your table show a proportional relationship? How do you know?

time (seconds)	distance (meters)
0	0
20	25
30	37.5
40	50
1	



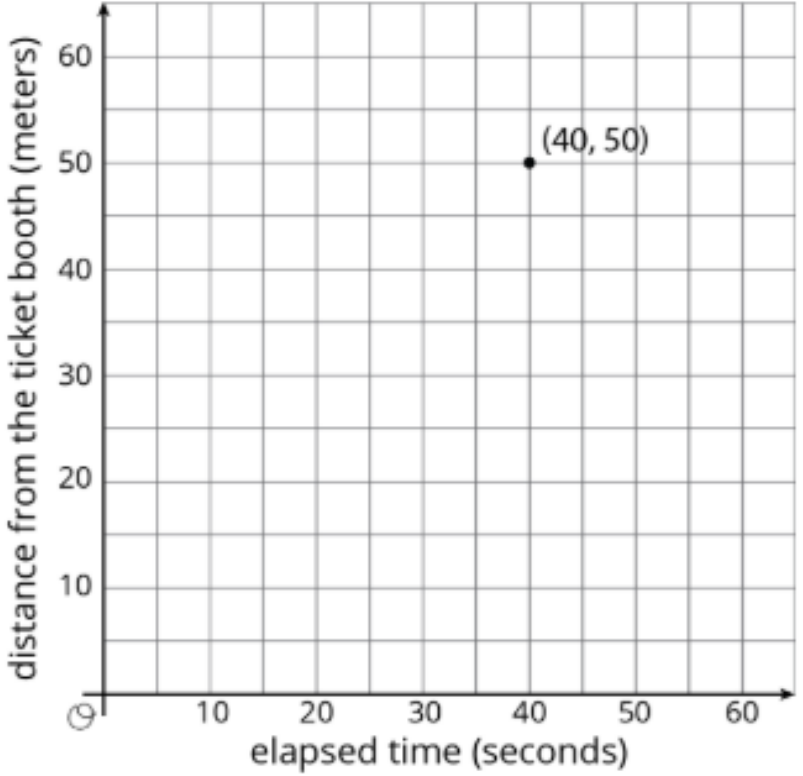
What do the coordinates of the points on the graph show?

time (seconds)	distance (meters)
0	0
20	25
30	37.5
40	50
1	



- What equation represents this relationship?
- Where do you see k, the constant of proportionality in the table, graph, and equation?

time (seconds)	distance (meters)
0	0
20	25
30	37.5
40	50
1	



Are you ready for more?

If Tyler wanted to get to the bumper cars in half the time…

How would the graph representing his walk change?

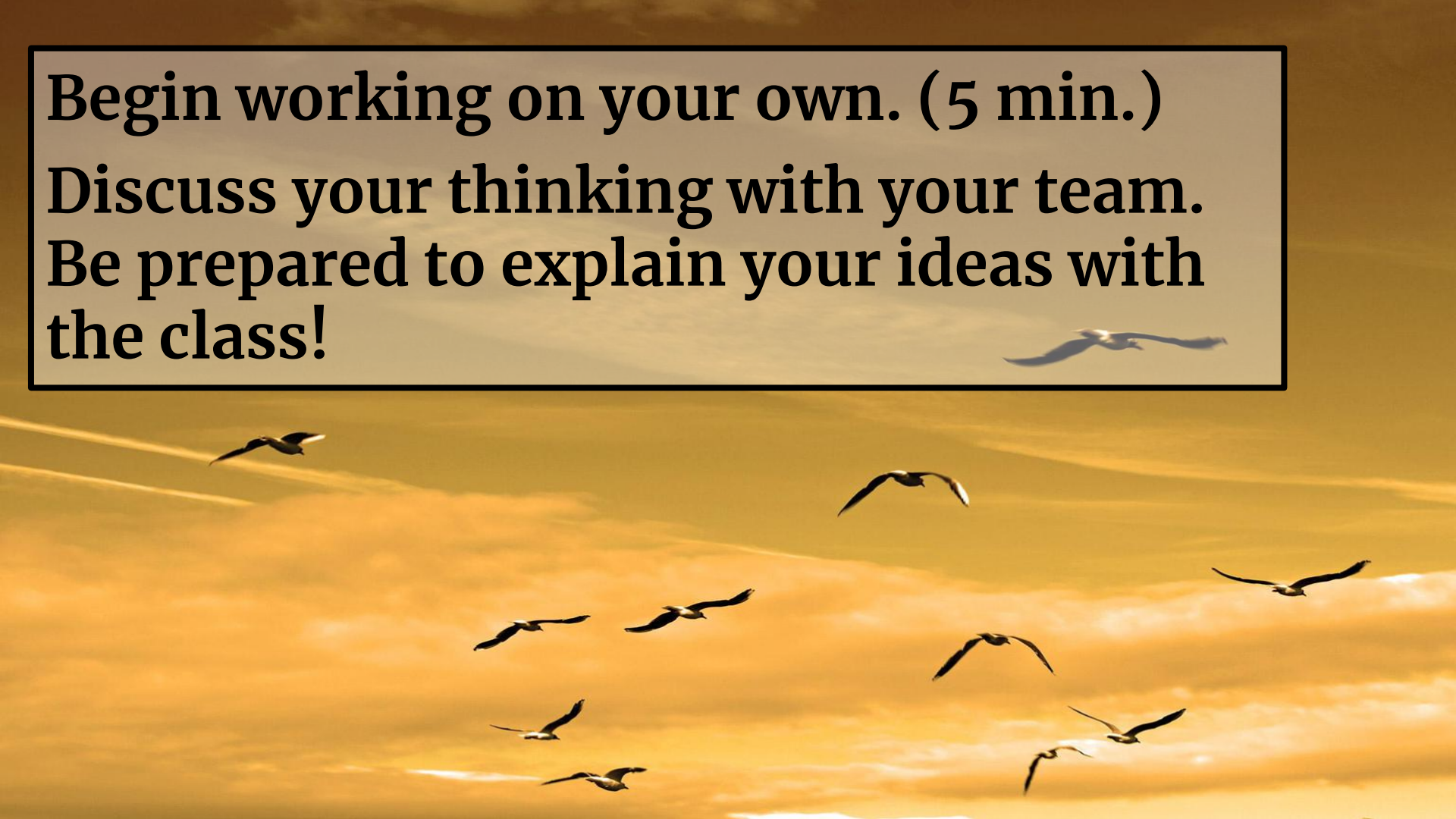
How would the table change?

How would the constant of proportionality change?

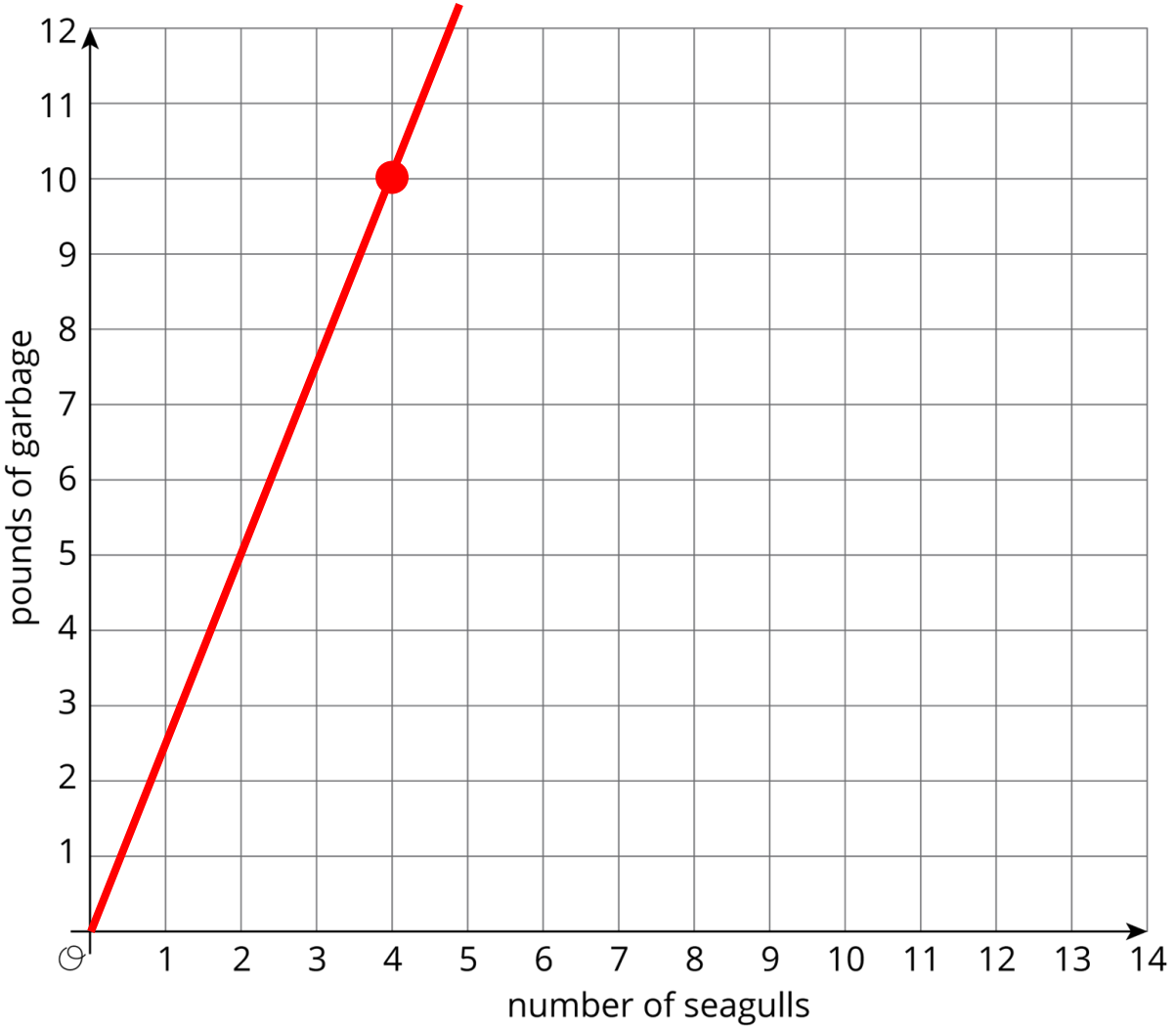
Seagulls Eat What?

Activity 11.3

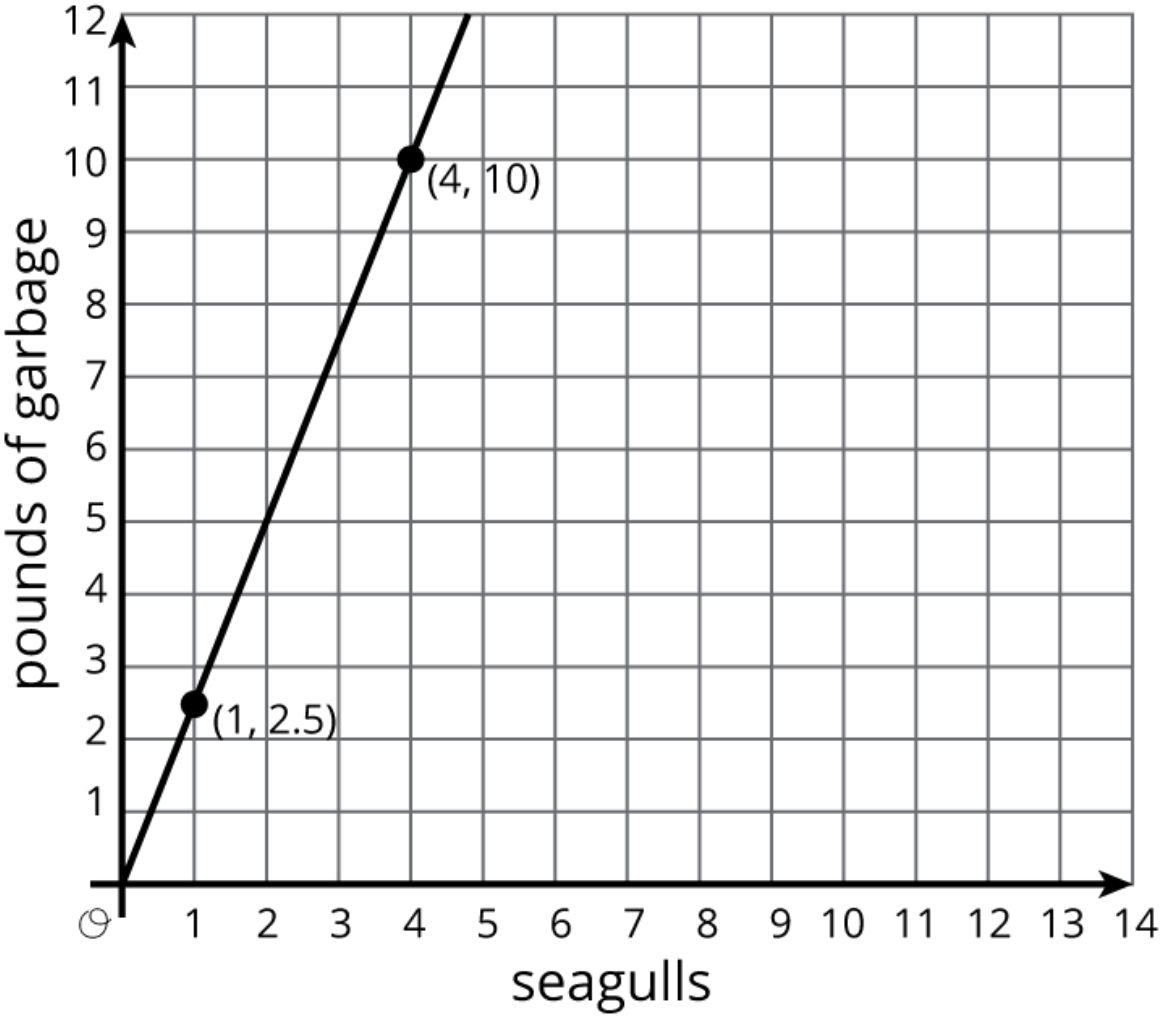
- Think Pair Share


Begin working on your own. (5 min.)
Discuss your thinking with your team. Be prepared to explain your ideas with the class!

1. Plot a point that shows the number of seagulls and the amount of garbage they ate.
2. Use a straightedge to draw a line through this point and (0,0).
3. Plot (1,*k*). What is the value of *k*? What does *k* mean in this context?

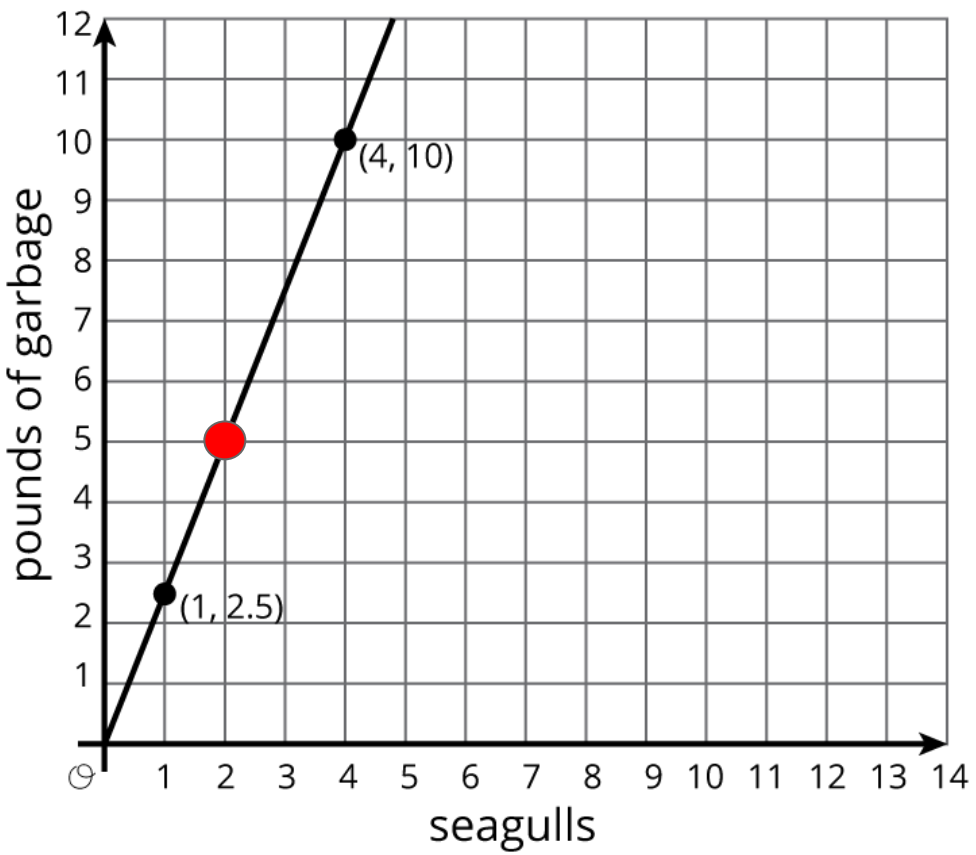


- Is it possible to interpret the meaning of every point on the solid line?
- Why is it still useful to draw the line, even if we can't interpret every point?
- How can drawing the line help us learn more about the situation?



Today's BIG Ideas:

1. We can interpret points on a graph and know what they mean.
2. The y-value that goes with the x-value of 1 shows us the constant of proportionality (k).



What does the red point mean on this graph?

What does the point (1,2.5) mean on the graph?

Today's Goals:

- ★ I understand the information given by graphs of proportional relationships that are made up of points or a line.
- ★ I can find the constant of proportionality from a graph.
- ★ I can draw the graph of a proportional relationship given a single point on the graph (other than the origin).

Filling a Bucket

Cool Down