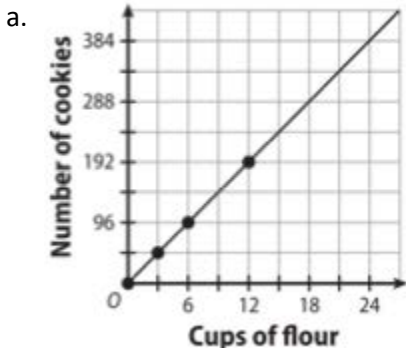


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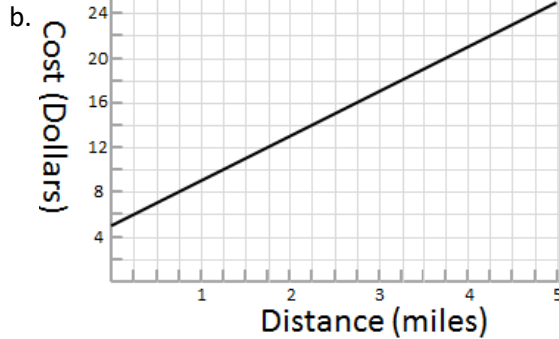
MODULE 2 TOPIC 1 REVIEW

1: Are each of the following graphs linear and/or proportional?



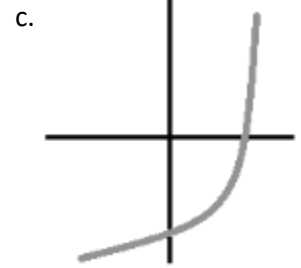
- Linear or Non-Linear?

-Proportional or non-proportional?



- Linear or Non-Linear?

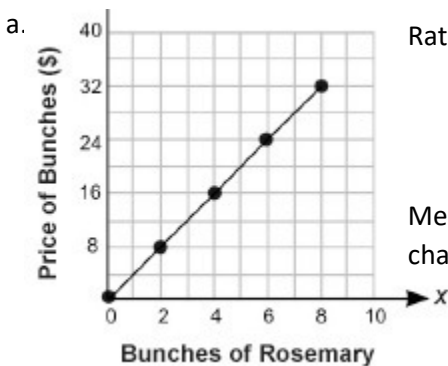
-Proportional or non-proportional?



- Linear or Non-Linear?

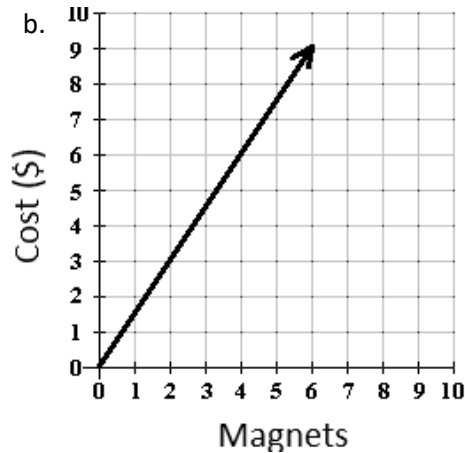
-Proportional or non-proportional?

2. What is the rate of change of each graph? What does it mean in context of the situation?



Rate of change:

Meaning of the rate of change:



Rate of change:

Meaning of the rate of change:

3. a. Explain why the graph in question 1, part a is proportional:

b. Explain why the graph in question 1, part b is not proportional:

c. Explain why the graph in question 1, part c is not proportional:

4. Are each of the following equations proportional or non-proportional?

a. $y = 3x - 4$

b. $y = -2x + 6$

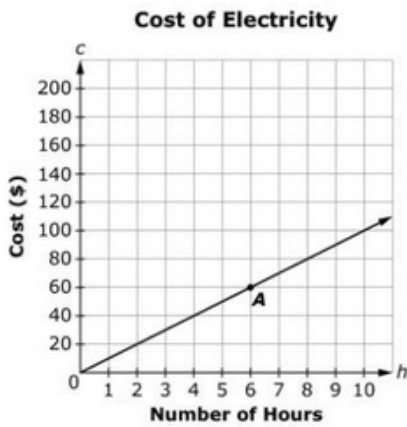
c. $y = \frac{7}{8}x + 8$

d. $y = \frac{5}{6}x$

e. $y = -4x$

5. Write an equation of the line in the graph.

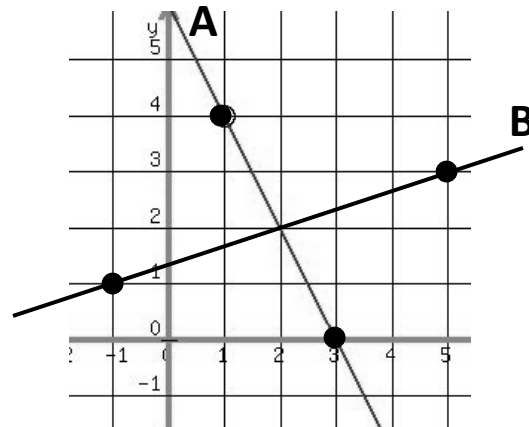
$y =$ _____



6. Find slope of each line. Be sure to simplify.

Line A:

Line B:



7. Define each of the following...

Linear:

Proportional relationship:

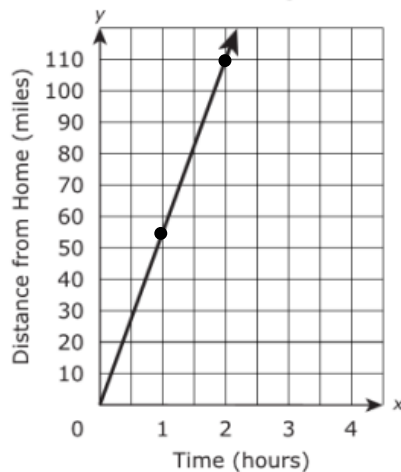
Rate of Change:

8. Rank the following rates of change from least to greatest.

- a. $y = 3x$
- b. $y = 7x$
- c. $y = 0.9x$
- d. $y = 0.2x$

9. Bill, Kevin, and Nicole took their families on the same vacation, but traveled in separate cars. Their speeds are expressed below. Find the constant of proportionality for each, then rank them in order from fastest to slowest.

$k =$ _____ **Bill's Trip**



$k =$ _____

Kevin's Trip

| Time (hours) | Distance from Home (miles) |
|--------------|----------------------------|
| 0 | 0 |
| 2 | 90 |
| 3 | 135 |
| 5 | 225 |
| 6 | 270 |

$k =$ _____

Nicole's Trip

$y = 60x$

10. Mrs. Rippe was analyzing how much better the Dodgers are than the Giants.

She noticed that the Dodgers won 5 out of every 7 games that they played against them.

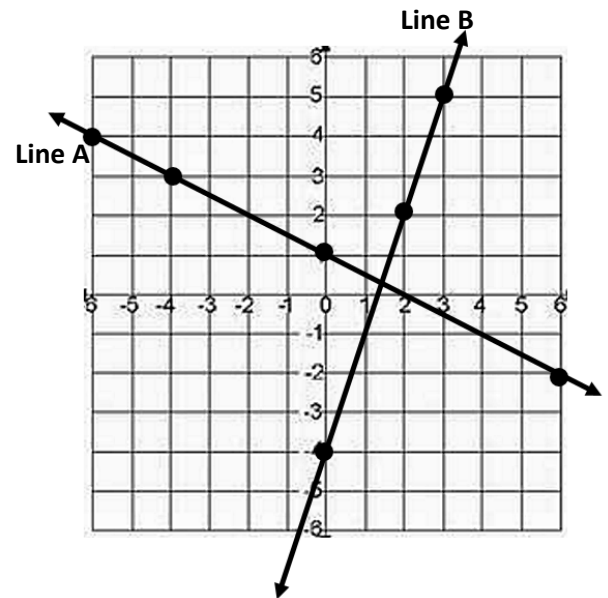
- a. If the Dodgers won 40 games against the Giants, how many games were played between the two teams?
- b. If the Dodgers and Giants have played 112 games against each other, how many have the Dodgers won?

11. Which of the following represents the slope when using the idea of similar triangles? (circle all that apply)

THINK ABOUT WHICH ONES YOU CAN ELIMINATE IMMEDIATELY BASED ON IF THE LINE IS POSITIVE OR NEGATIVE

- Line A: a. $-\frac{3}{6}$ b. $\frac{1}{2}$ c. $-\frac{2}{1}$ d. $\frac{2}{4}$
 e. $\frac{5}{10}$ f. $-\frac{4}{2}$ g. $-\frac{1}{2}$ h. $-\frac{5}{10}$
 i. $\frac{3}{6}$ j. $\frac{2}{1}$ k. $-\frac{2}{4}$

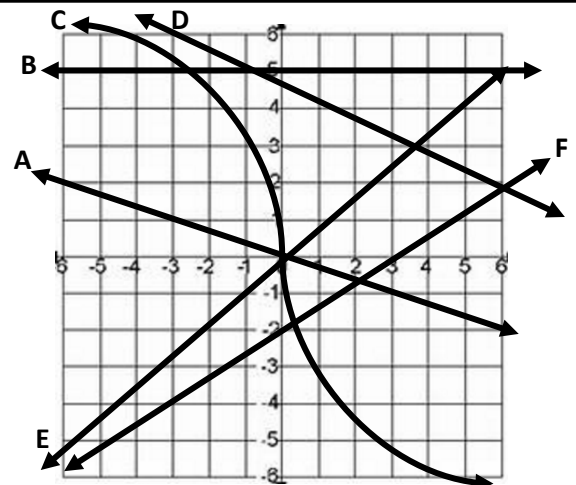
- Line B: a. $-\frac{1}{3}$ b. $\frac{1}{3}$ c. $-\frac{3}{1}$ d. $\frac{3}{1}$
 e. $\frac{6}{2}$ f. $-\frac{6}{2}$ g. $-\frac{9}{3}$ h. $\frac{9}{3}$



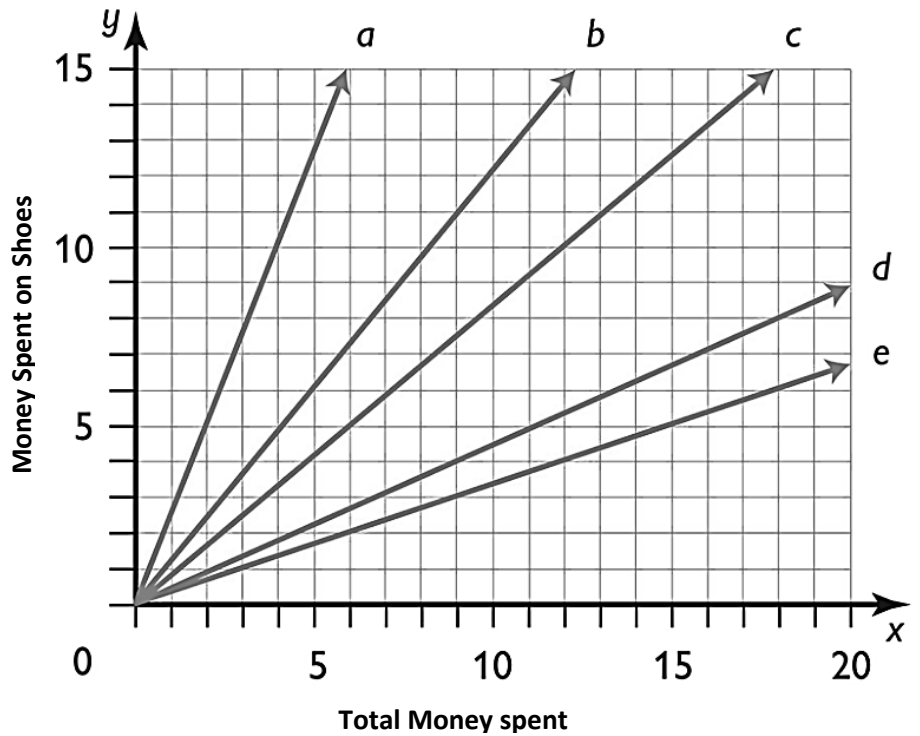
12. Answer the following questions.

- What are the requirements for a relationship to be PROPORTIONAL?
- What are some reasons a relationship could be NON-PROPORTIONAL?
- Are all linear relationships proportional? Why or why not?
- If a line goes through the y-intercept (0, 5), can it be proportional?
- If a line has the form of the equation, $y = kx$, is the relationship proportional or non-proportional?

13. Which of the provided lines are proportional?



14. John is going to the mall to buy new clothes. 3 out of every 9 dollars he spends is spent on shoes. Which line represents this problem situation?



15. Five people were polled about how much money they make for working a certain amount of minutes.

- a. Which two students made the same amount per minute?
- b. Which person earned money at a rate of \$6 every 8 minutes?

| Person | # of minutes worked | Money Earned | Money earned per minute |
|----------|---------------------|--------------|-------------------------|
| Mike | 100 | \$50 | |
| Jimmy | 240 | \$180 | |
| Alicia | 80 | \$64 | |
| Brooklyn | 50 | \$20 | |
| Easton | 60 | \$48 | |

- c. Suppose a person gets a job that pays the same rate as Brooklyn. This person works for 160 minutes. How much money would he earn?

16. The Penningtons and the Williams family went on a road trip. The Penningtons traveled at a rate of 80 miles per hour. The Williams traveled at a rate of 60 miles per hour. Which line represents which family?

Pennington Family: Line _____

Williams Family: Line _____

