CSS: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

Name:_____ Date:_____ Per.:_____

LT Pre Test

Directions: Show what you know about the following topic by completing the problems below. Make sure to show all work.

1. Define the following words:
proportional relationship –

unit rate –

slope –

2. What is a non-vertical line?

What is the coordinate plane?

3. Define the sollowing words:
Derive –

Origin –

Intercept –

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3. Draw a number line and do the following things:
1. Number your number line from 0 to 10 counting by 1's.
2. Demonstrate 2 + 3 and 10 – 6 on the number line.

(2.MD.6)

4. Consider the following fraction: $\frac{1}{8}$

- Place this fraction on the number line below:

0 ——————————————— 1

- Split the number line into equal eighths and label each part.
- What is the size of each segment on the number line?
- Draw another number line and label the location of the following fractions: $\frac{1}{3}, \frac{1}{6}, \frac{1}{4}, \frac{1}{2}, \frac{7}{6}$ and $\frac{10}{2}$

(3.NF.6)

5. Rewrite the following fractions as decimals.

a. $\frac{2}{10} =$

b. $\frac{7}{100} =$

c. $\frac{47}{100} =$

d. $\frac{125}{100} =$

(4.NF.6)

6. Draw a coordinate plane and label the x-axis from 0 to 10 counting by one's and label the y-axis 0 to 20 counting by two's. Then place and label the following points on your coordinate plane:
(0, 3) (1, 5) (6, 5) (2, 8) (10, 12) (8, 20)

(5.G.1)

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7. You are shopping for produce at the Farmer's Market. The Farmer's Market is having a huge last weekend sale and all the farms have a deal of 1 bag for produce costs $5. Make a graph showing the cost for filling up 1 bag, 2 bags, 3 bags, etc until you reach 10 bags. Under your graph write an sentence about what a point (x,y) means on your graph.
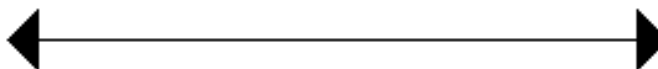
8. a. Order the following rational number in order from smallest to largest.

$$0, \frac{2}{3}, -\frac{5}{4}, 0.25, |-5|, -5$$

b. If I give you the statement $-3 < -1$ what does that mean about the relationship between those two numbers on a number line?

9. a. Place the six numbers from question 8a on the number line below. Don't forget to label the numbers.
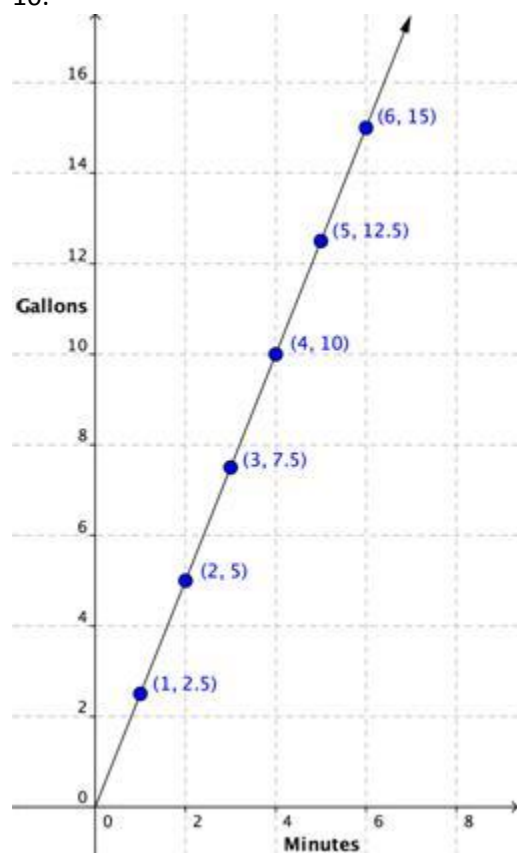
b. Draw a 4-quadrant coordinate grid and place the following ordered pairs on the coordinate plane (don't forget labels):
(-1, 5) (6, 2) (-5, -9) (3, -7) (-5, 2) (1, 10) (0, 5) (-7, 0) (-8, -10) (4, -2)

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10.

Inspecting the graph to the left. What does a coordinate on the graph mean?

What does the point (0,0) mean?
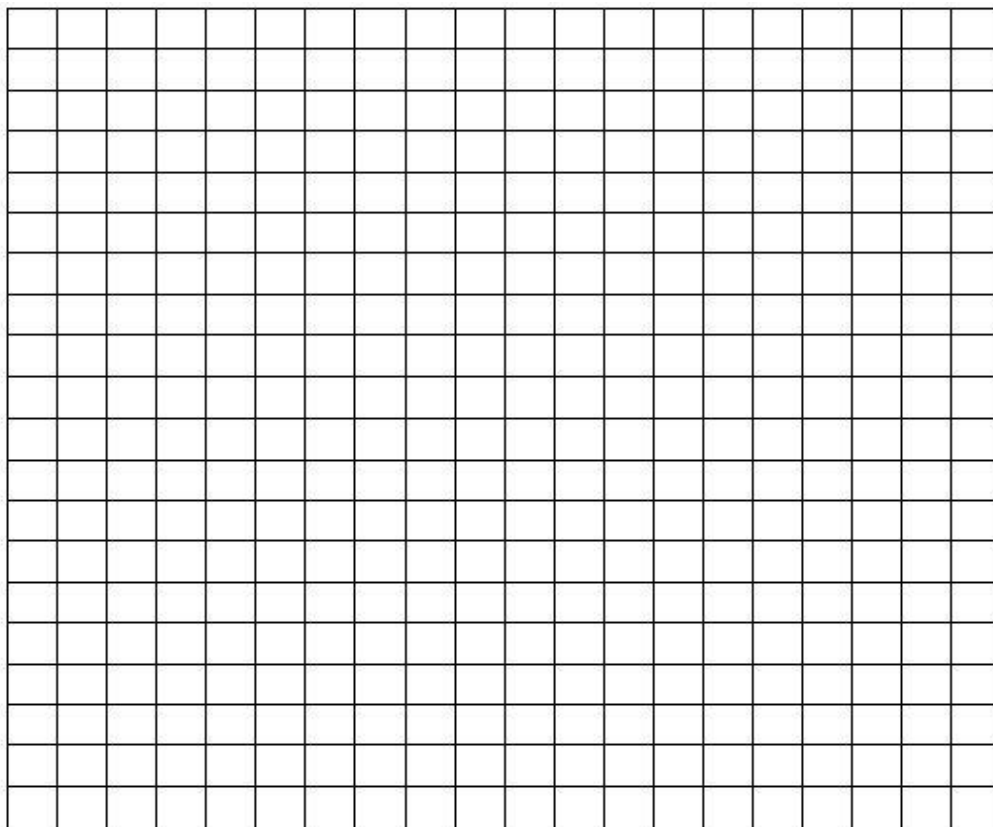
What does the point (1, 2.5) mean?

(7.RP.2)

11. Lena paid $18.96 for 3 pounds of coffee.

a. What is the cost per pound for this coffee?

b. How many pounds of coffee could she buy for $1.00?

c. Draw a graph in the coordinate plane of the relationship between the number of pounds of coffee and the total cost.
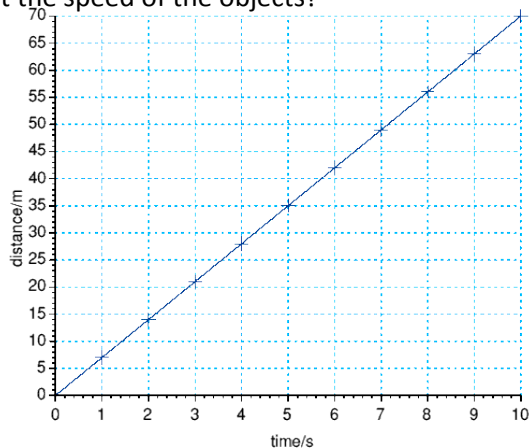
d. In this situation, what is the meaning of the slope of the line you drew in part (c)?

from illustrativemathematics.org   (8.EE.5)

12. The two proportional relationships are both distance-time relationships. What can you tell me about the speed of the objects?

$$d = 12t$$

(8.EE.5)

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