

CSS: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.

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:

linear model –

slope –

y-intercept –

bivariate data –

2. Make a number line numbered 0 through 15 counting by 1's.

On the number line show the addition problem $5 + 7$ and the subtraction problem $15 - 8$.

(2.MD.6)

3. Make a number line and label the following fractions on them: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{5}$

(3.NF.2)

4. Explain how you placed the four fractions on the number line above.

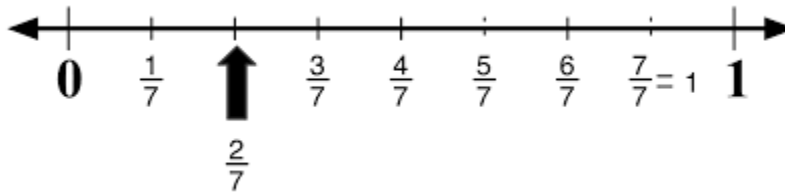
(3.NF.2)

5. Now make a number line and label $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, and $\frac{5}{5}$.

(3.NF.2)

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6. What is the size of the interval from 0 to the fraction with the arrow pointing to it?



(3.NF.2)

7. Write the following fractions as decimals.

a) $\frac{3}{10}$

b) $\frac{33}{100}$

c) $\frac{136}{100}$

(4.NF.6)

8. Make a coordinate grid with the x-axis going from 0 to 10 and the y-axis going from 0 to 12, each counting by 1's.

9. Place the following ordered pairs on your grid from #8.

(3, 5)

(4, 6)

(0, 4)

(5, 0)

(10, 12)

(5.G.1)

(5.G.1)

10. Create a graph for the following real-life problem. You travel to Denver at an average speed of 60 mph. Meaning after 1 hour you've gone 60 miles, after 2 hours you've gone 120 miles, etc. Continue for 7 hours.

(5.G.2)

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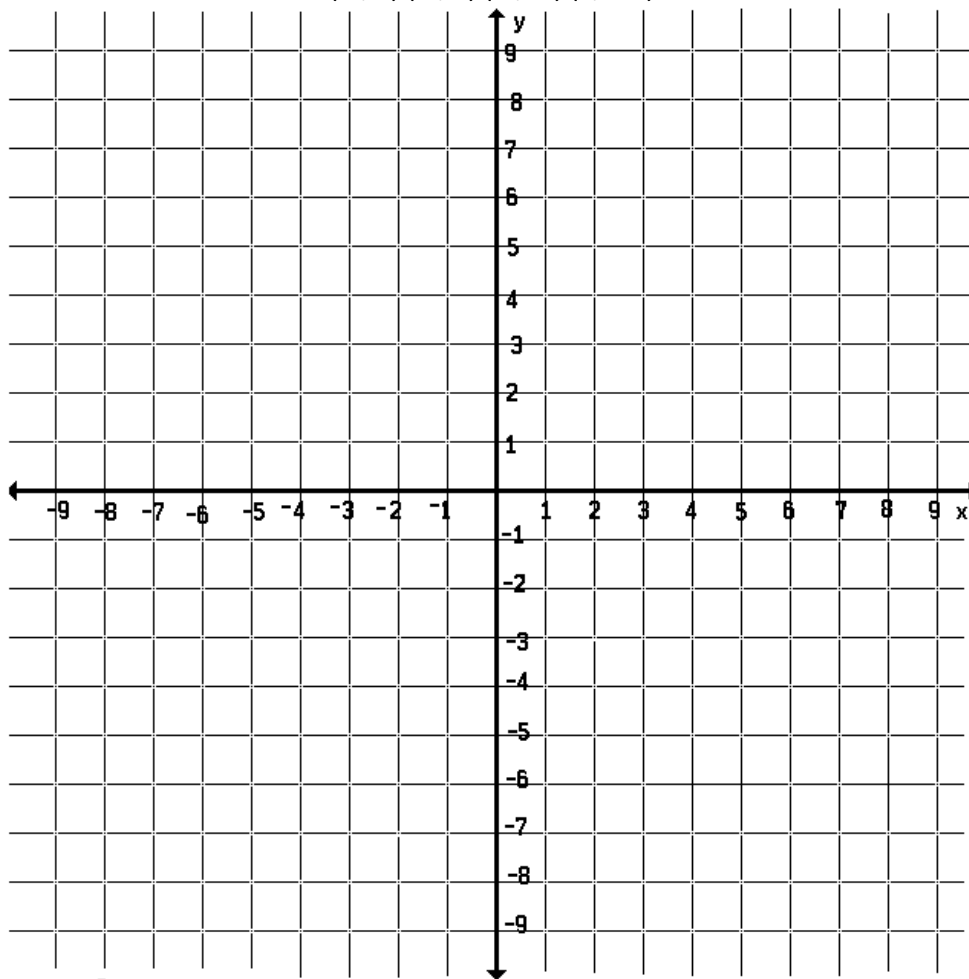
11. Place the following numbers in order from least to greatest.

$-3.5, |-5|, 3.5, -5$

(6.NS.7a)

12. Place the following ordered pairs on the coordinate system below.

$(-3, 5) (-5, 8) (-3, -7) (5, -10)$



*A*²

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www.mathnstuff.com/gif/9x9not.gif

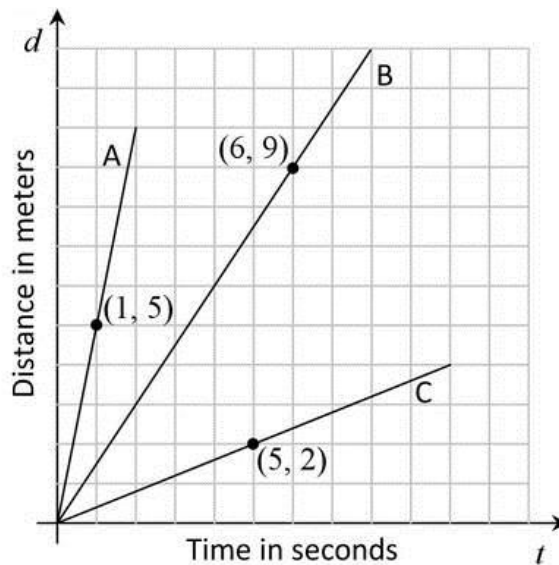
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(6.NS.6c)

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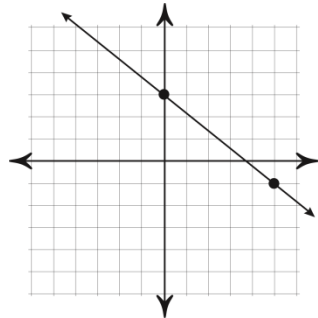
13. Carli's class built some solar-powered robots. They raced the robots in the parking lot of the school. The graphs below are all line segments that show the distance d , in meters, that each of three robots traveled after t seconds.

1. Each graph has a point labeled. What does the point tell you about how far that robot has traveled?
2. Carli said that the ratio between the number of seconds each robot travels and the number of meters it has traveled is constant. Is she correct? Explain.
3. How fast is each robot traveling? How did you compute this from the graph?



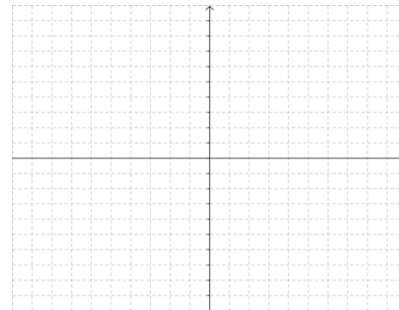
(7.RP.2)

14. Use the Pythagorean Theorem to find the distance between the two labeled points.



(8.G.8)

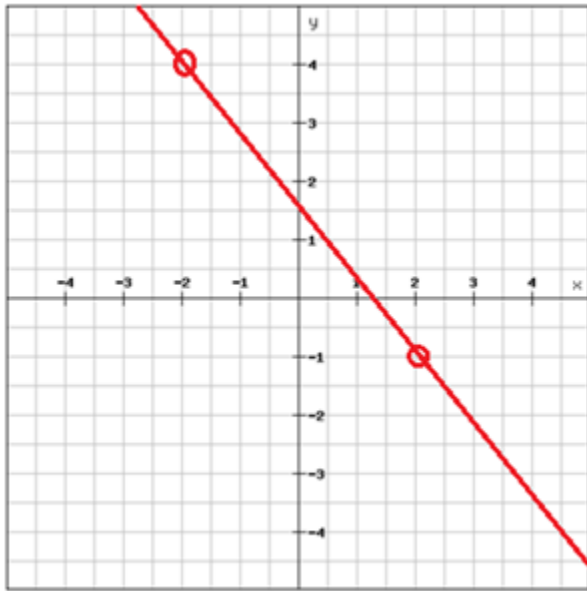
15. Graph the following equation: $y = 3x + 5$.



(8.EE.5)

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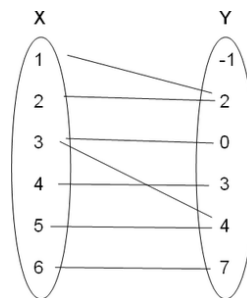
16. Write the linear equation for the line below.



(8.EE.6)

17. What is a function?

Does the table below represent a function?



(8.F.1)

18. Create a scatter plot for the data below on arm span and height and then identify the association.

Person	Arm Span	Height
1	156	162
2	157	160
3	159	162
4	160	155
5	161	160
6	161	162
7	162	170
8	165	166
9	170	170
10	170	167
11	173	185
12	173	176
13	177	173
14	177	176
15	178	178
16	184	180
17	188	188
18	188	187
19	188	182

(8.SP.1)

19. For the scatter plot you created above draw in a line-of-best fit and write an equation for that line that you can use to make predictions.

(8.SP.3)

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