Name: Connecting Algebra and Geometry | 7.2

Ready, Set, Go!

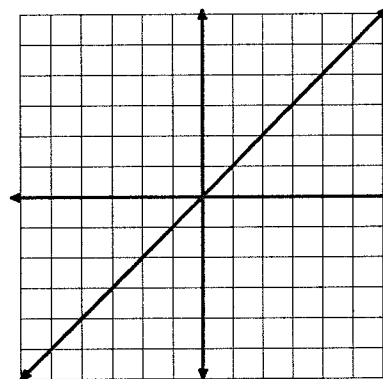Ready

Topic: Graphing lines.

The graph at the right is of the line $f(x) = x$.

1a. On the same grid, graph a parallel line that is 3 units above it.

 b. Write the equation of the new line. _____

 c. Write the y-intercept of the new line as an ordered pair.

 d. Write the x-intercept of the new line as an ordered pair.

 e. Write the equation of the new line in point-slope form using the
    y-intercept.

 f. Write the equation of the new line in point-slope form using the x-intercept.

 g. Explain in what way the equations are the same and in what way they are different.

The graph at the right is of the line $f(x) = -2x$.

2a. On the same grid, graph a parallel line that is 4 units below it.

 b. Write the equation of the new line. _____

 c. Write the y-intercept of the new line as an ordered pair.

 d. Write the x-intercept as an ordered pair.

 e. Write the equation of the new line in point-slope form using the
    y-intercept

 f. Write the equation of the new line in point-slope form using the x-intercept.

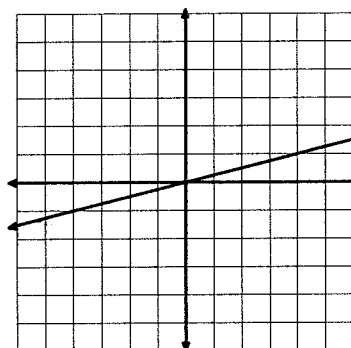 g. Explain in what way the equations are the same and in what way they are different.
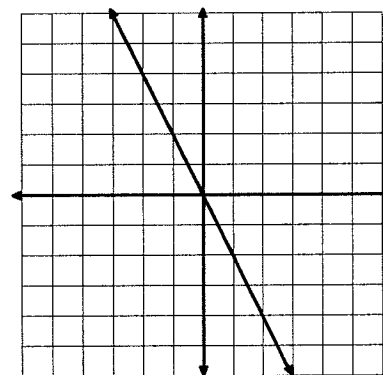
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The graph at the right is of $f(x) = \frac{1}{4}x$

3a. Graph a parallel line 2 units below.

  b. Write the equation of the new line.

  c. Write the y-intercept as an ordered pair.

  d. Write the x-intercept as an ordered pair.

  e. Write the equation of the new line in point-slope form using the y-intercept

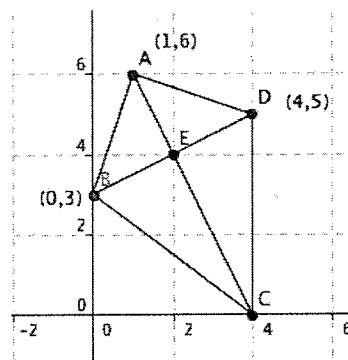 f. Write the equation of the new line in point-slope form using the x-intercept

  g. Explain in what way the equations are the same and in what way they are different.

Set
Topic: Verifying and Proving Geometric Relationships

The quadrilateral at the right is called a **kite**.

Complete the mathematical statements about the kite using the given symbols. Prove each statement algebraically.
(A symbol may be used more than once.)

$$\cong \quad \perp \quad \parallel \quad < \quad > \quad =$$

Proof

4. $\overline{BC}$ _____ $\overline{DC}$ _____

5. $\overline{BD}$ _____ $\overline{AC}$ _____

6. $\overline{AB}$ _____ $\overline{BC}$ _____

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7. $\triangle ABC$ _____ $\triangle ADC$ _____

_____

8. $\overline{BE}$ _____ $\overline{ED}$ _____

_____

9. $\overline{AE}$ _____ $\overline{ED}$ _____

_____

10. $\overline{AC}$ _____ $\overline{BD}$ _____

_____

Go

Topic: Writing equations of lines.

Write the equation of the line in standard form using the given information.

11. Slope: -¼   point (12, 5)

12. A (11, -3) , B (6, 2)

13. x-intercept: -2, y-intercept: -3

14. All x values are -7, y can be anything

15. Slope: ½   x-intercept: 5

16. E (-10, 17) , G (13, 17)

Need Help? Check out these related videos:

http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/v/graphing-using-x-and-y-intercepts