Test 4 Review

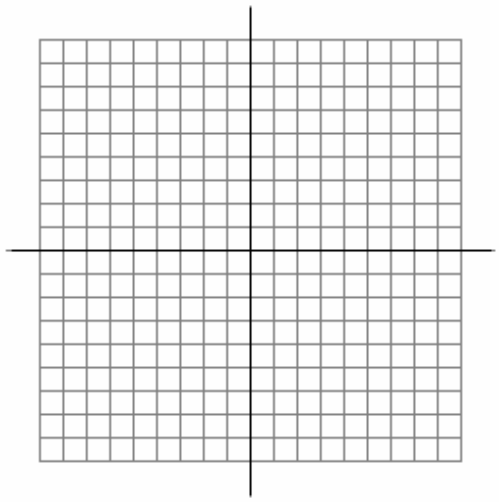
Graph the lines that go through the following points. Find the slope, the y-intercept, and the equation.

1. (-3, -7) and (2, 3)

   Slope: _____

   *y*-intercept: _____

   equation: _____

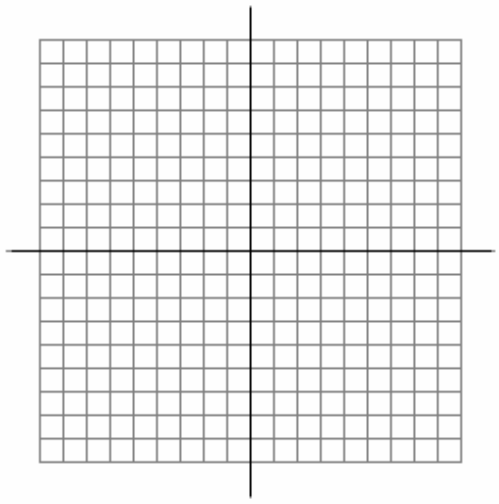


2. (4, 1) and (-6, 6)

   Slope: _____

   *y*-intercept: _____

   equation: _____

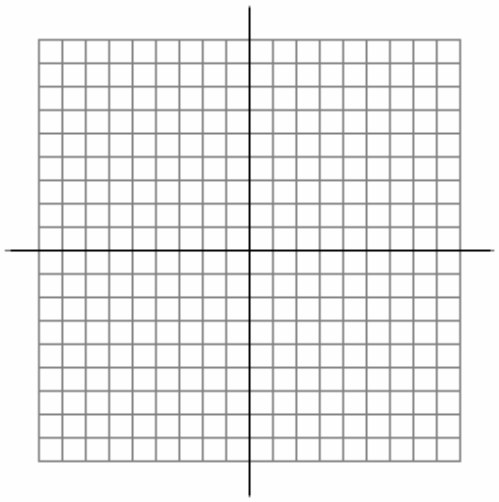


3. (-6, -3) and (3, 3)

   Slope: _____

   *y*-intercept: _____

   equation: _____

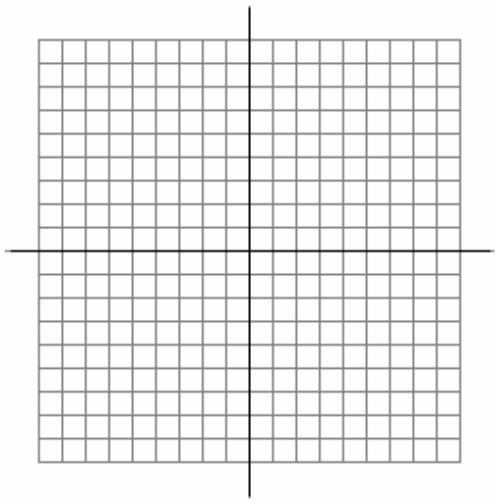


4. (-4, 0) and (2, -6)

   Slope: _____

   *y*-intercept: _____

   equation: _____



5. Write the slope of the line that goes through the points (3, 7) and (13, -23).

6. A baker is baking a huge batch of cookies for a large convention that she had started the prior evening. She already has some cookies made. After working for three hours, she has 448 cookies. After working for five hours, she has 576 cookies.

   a. What are the two variables here?

   b. If we assume that she's working at a constant rate, how many cookies did she have made after 4 hours?

   c. How many cookies is she making per hour?

   d. How many cookies were already made at the beginning of the day?

   e. Write an equation to describe the number of cookies made after $x$ hours.

   f. Write the inverse of this equation (i.e., the number of hours it takes to make $x$ cookies)

   g. How many hours did it take her to have a total of 736 cookies?

7. A line is parallel to the line $y = 4x - 2$ and goes through the point (5, 11). What is the equation of this line?

8. A line is perpendicular to the line $y = 5x - 1$ and goes through the point (10, –3). What is the equation of this line?

9. What is the *y*-intercept of the line that goes through (1, 5) and (3, 1)?

10. A direct variation goes through the point (5, 6). What is the slope? Name another point on this line.

11. What is the inverse of each of the functions below?

    a. $f(x) = 4x + 8$

    b. $f(x) = \frac{1}{2}x - 8$

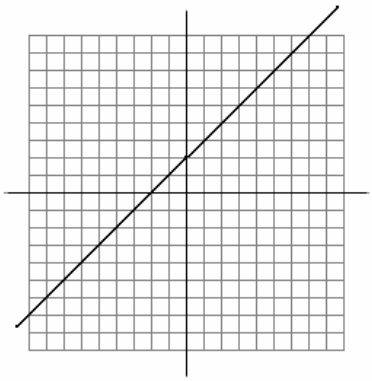
    c. $f(x) = \frac{3}{5}x + 1$

    d. $f(x) = \frac{2}{9}x + 18$

12. Match the linear functions with the graphs below:

| | | |
|---|---|---|
| _____ $y = 3x + 1$ | _____ $y = x + 1$ | _____ $y = \frac{1}{3}x + 1$ |
| _____ $y = 3x - 1$ | _____ $y = x - 1$ | _____ $y = \frac{1}{3}x - 1$ |
| _____ $y = 3x + 2$ | _____ $y = x + 2$ | _____ $y = \frac{1}{3}x + 2$ |

A



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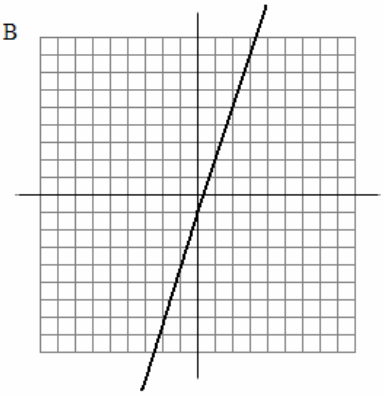

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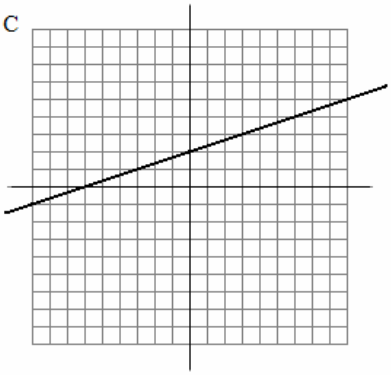

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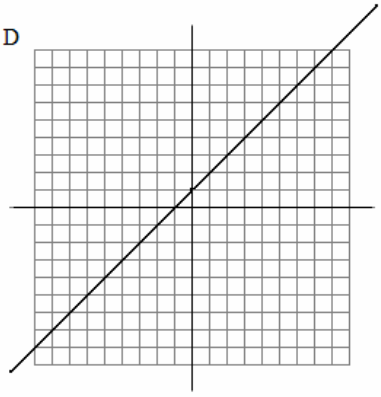

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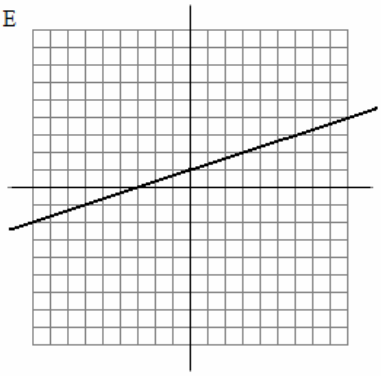

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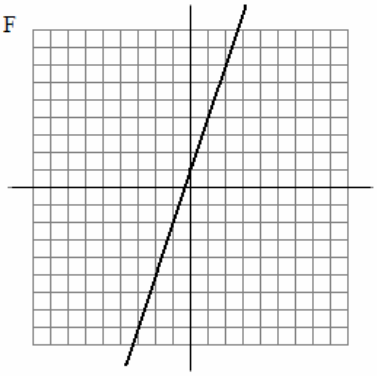

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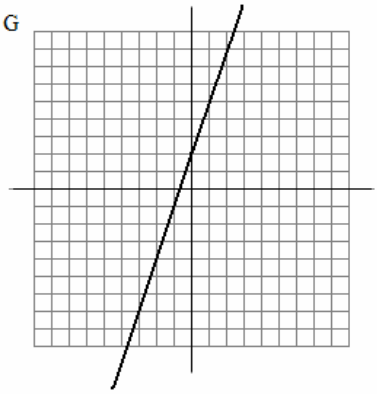
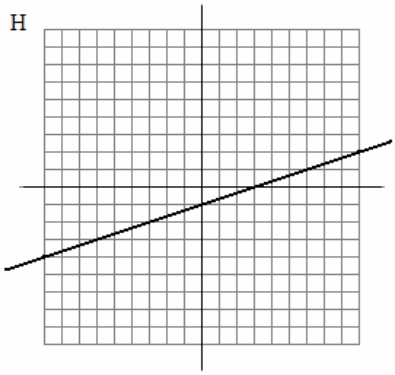


H



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