

Name: \_\_\_\_\_

Key

## Linear Functions – Standard Form Review

I can graph an equation in Standard Form

Write the equation in slope-intercept form

1.  $3x - 4y = -12$

$$\begin{array}{r} -3x \quad -3x \\ -4y = \frac{-3x - 12}{-4} \\ y = \frac{3}{4}x + 3 \end{array}$$

2.  $-4x + 2y = 14$

$$\begin{array}{r} +4x \quad +4x \\ 2y = \frac{4x + 14}{2} \\ y = 2x + 7 \end{array}$$

3.  $8x + 9y = -27$

$$\begin{array}{r} -8x \quad -8x \\ 9y = \frac{-8x - 27}{9} \\ y = -\frac{8}{9}x - 3 \end{array}$$

Identify the x and y intercepts of the equation. Write answer as a coordinate.

4.  $x + 2y = 8$

$$\begin{array}{l} x + 2(0) = 8 \\ x = 8 \end{array} \quad \begin{array}{l} (0) + 2y = 8 \\ \frac{2y}{2} = \frac{8}{2} \\ y = 4 \end{array}$$

5.  $4x - 8y = -16$

$$\begin{array}{l} 4x - 8(0) = -16 \\ \frac{4x}{4} = \frac{-16}{4} \\ x = -4 \end{array} \quad \begin{array}{l} 4(0) - 8y = -16 \\ -8y = -16 \\ \frac{-8y}{-8} = \frac{-16}{-8} \\ y = 2 \end{array}$$

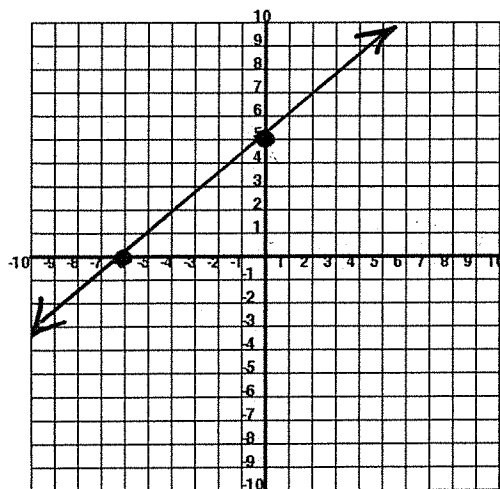
6.  $-2x - 10y = 30$

$$\begin{array}{l} -2x - 10(0) = 30 \\ -2x = 30 \\ \frac{-2x}{-2} = \frac{30}{-2} \\ x = -15 \end{array} \quad \begin{array}{l} -2(0) - 10y = 30 \\ -10y = 30 \\ \frac{-10y}{-10} = \frac{30}{-10} \\ y = -3 \end{array}$$

X- Intercept: (8,0)Y- Intercept: (0,4)X- Intercept: (-4,0)Y- Intercept: (0,2)X- Intercept: (-15,0)Y- Intercept: (0,-3)

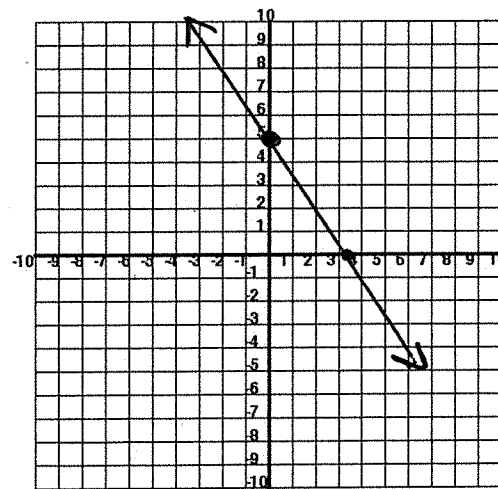
7. Graph the equation

$-5x + 6y = 30$



8. Graph the equation

$3x - 2y = -10$



I can solve Standard Form word problems

9. You are in charge of buying food for your family reunion. You pay \$1.50 for each hamburger and \$2 for each hot dog.

a. Define variables for the number of hot dogs and hamburgers you buy.

$h = \text{hot dogs}$      $b = \text{hamburgers}$

b. Write an equation in standard form to relate the number of hamburgers and hot dogs you must buy to stay in your \$90 budget.

$$1.50b + 2h = 90$$

c. If you bought 30 hot dogs, how many hamburgers did you buy?

$$1.50b + 2(30) = 90$$

$$\begin{array}{r} 1.50b + 60 = 90 \\ -60 \quad -60 \end{array}$$

$$\begin{array}{r} 1.50b = 30 \\ \hline 1.50 \quad 1.50 \\ b = 20 \end{array}$$

You bought 20 hamburgers.

10. You are selling drinks at the carnival to raise money for your school club. You sell lemonade for \$2 per cup and soda for \$3 per can.

a. Define variables for the cups of lemonade and cans of sodas you sell.

$l = \text{lemonade}$      $s = \text{soda}$

b. Write an equation in standard form to relate the cups of lemonade and cans of soda you must sell to raise \$240.

$$2l + 3s = 240$$

c. If you sell 60 cups of lemonade, how many cans of soda did you sell?

$$2(60) + 3s = 240$$

$$\begin{array}{r} 120 + 3s = 240 \\ -120 \quad -120 \end{array}$$

$$\begin{array}{r} 3s = 120 \\ \hline 3 \quad 3 \\ s = 40 \end{array}$$

You sold 40 cans of soda.