

# Supplies Graphing Sheet

## Warm Up

1. Solve  $4x - 2(2x + 5) = 10(x + 8)$
2. Solve  $2x - 3y = 12$  for  $y$
3. Write a rule for the function below.

<b>x</b>	1	2	3	4	5
<b>f(x)</b>	7	10	13	16	19

# Objective:

Learn about linear functions and  
Standard Form

What shape will the graph of this equation be?

$$5x - 10y = 20$$

Graph this equation.

$$5x - 10y = 20$$

$$5x - 10y = 20$$

Now, did anyone find  
an easy way to do it?

# Standard Form for a Line

$$Ax + By = C$$

where  $A$ ,  $B$ , and  $C$  are real numbers and  $A$  and  $B$  are not both 0

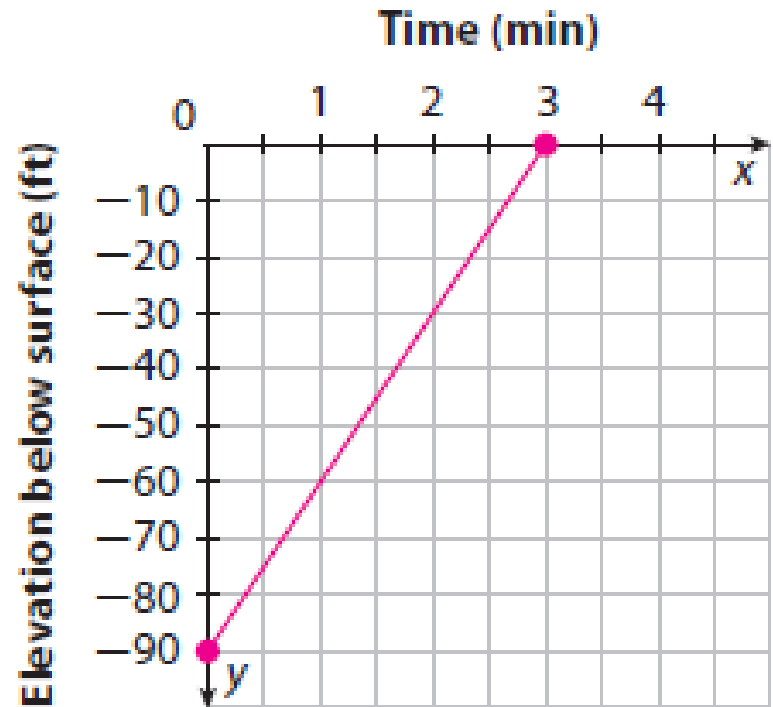
# Take Notice!

- $x$  and  $y$  both have exponents of 1.
- $x$  and  $y$  are not multiplied together.
- $x$  and  $y$  do not appear in denominators, exponents, or radical signs.

## Review

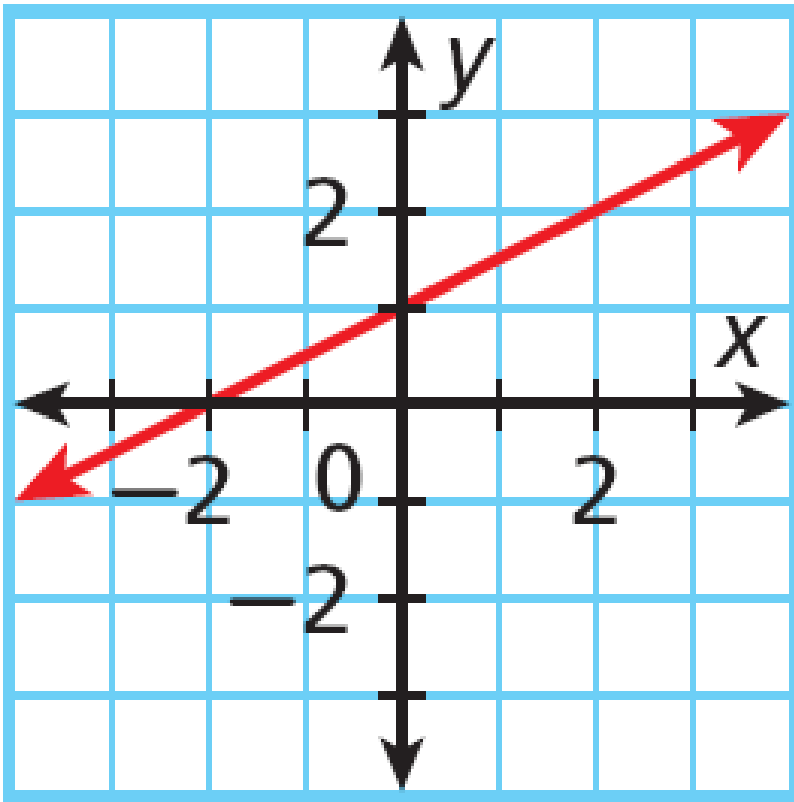
The **y-intercept** is the y-coordinate of the point where the graph intersects the y-axis. The x-coordinate of this point is always 0.

The **x-intercept** is the x-coordinate of the point where the graph intersects the x-axis. The y-coordinate of this point is always 0.





**Find the x- and y-intercepts.**



The graph intersects the y-axis at  $(0, 1)$ . The y-intercept is 1.

The graph intersects the x-axis at  $(-2, 0)$ . The x-intercept is -2.

## Find the x- and y-intercepts. $5x - 2y = 10$

To find the x-intercept, replace y with 0 and solve for x.

$$5x - 2y = 10$$

$$5x - 2(0) = 10$$

$$5x - 0 = 10$$

$$5x = 10$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$x = 2$$

The x-intercept is 2.

To find the y-intercept, replace x with 0 and solve for y.

$$5x - 2y = 10$$

$$5(0) - 2y = 10$$

$$0 - 2y = 10$$

$$-2y = 10$$

$$\frac{-2y}{-2} = \frac{10}{-2}$$

$$y = -5$$

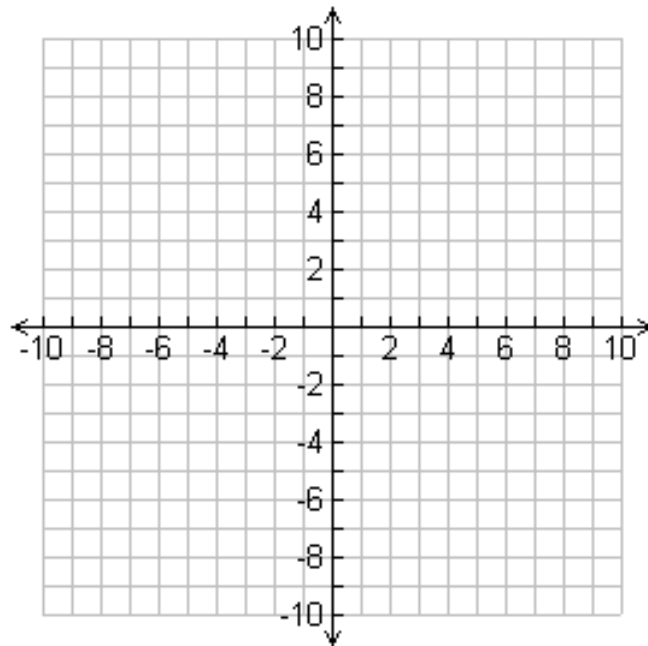
The y-intercept is -5.

**Find the x and y intercepts from  
a linear equation in standard form.  
Then graph the function.**

$$-3x + 5y = 30$$

The x-intercept is -10; (-10, 0)

The y-intercept is 6; (0, 6)

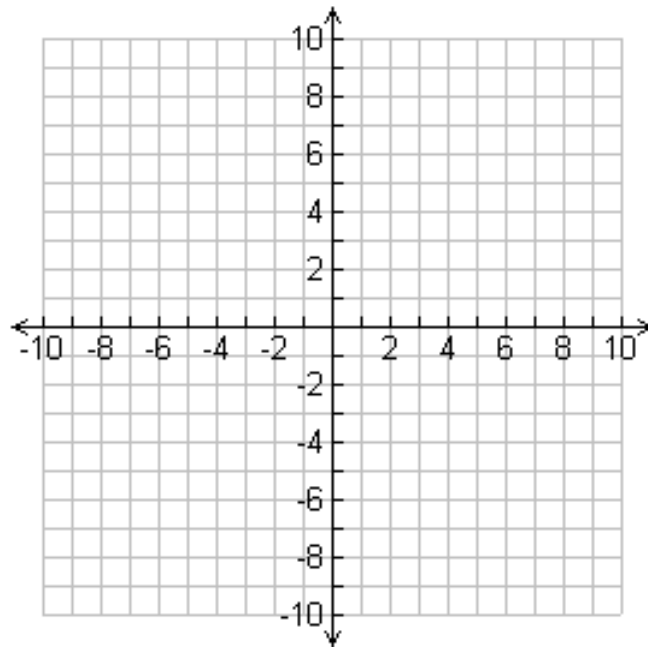


**Find the x and y intercepts from  
a linear equation in standard form.  
Then graph the function.**

$$-4x - 5y = 40$$

The x-intercept is -10; (-10, 0)

The y-intercept is -8; (0, -8)

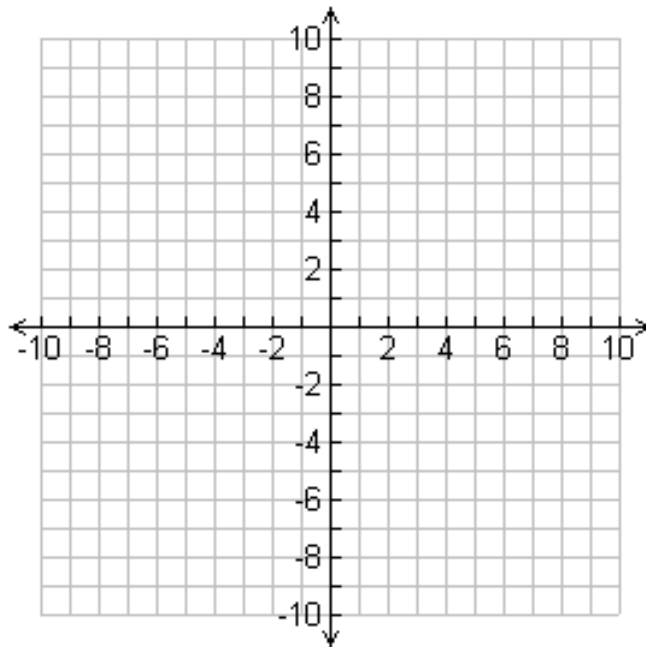


**Find the x and y intercepts from  
a linear equation in standard form.  
Then graph the function.**

$$2x - 3y = -6$$

The x-intercept is -6; (-6, 0)

The y-intercept is 2; (0, 2)



Homework

Worksheet