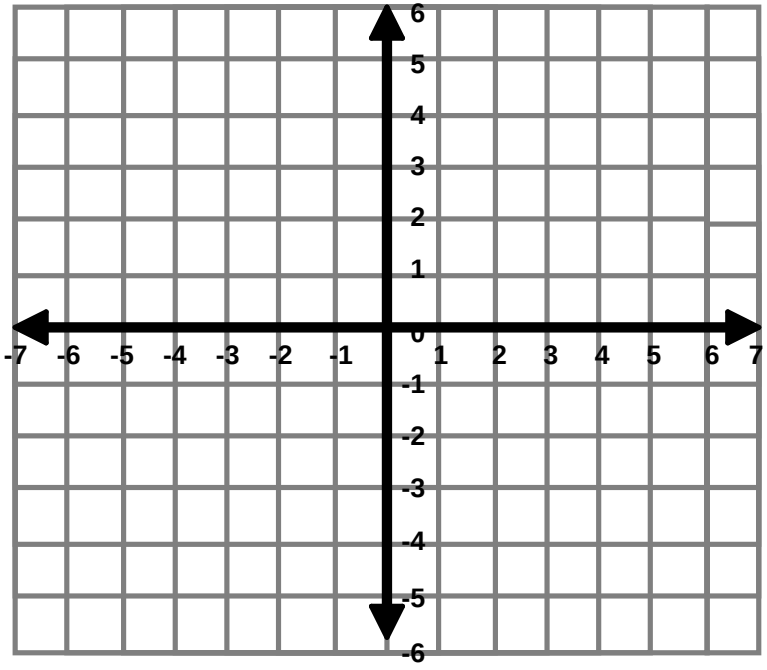
4.5

Graphing Linear Equations in Standard Form (Day 2)

Practice

1) $4x - 12y = -24$



Graph the equation using the intercepts.

***x*-intercept**

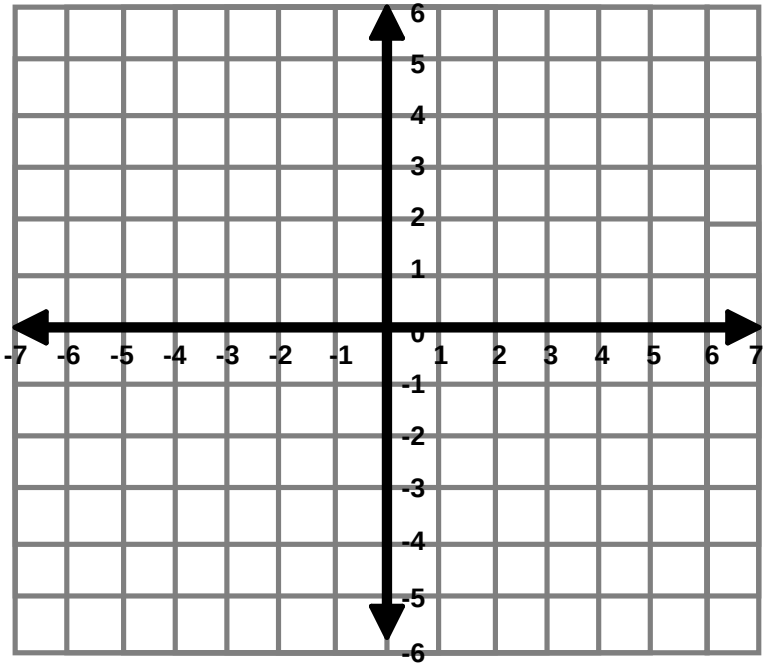
Plug-in ***y*=0** into the equation and solve for ***x***.

***y*-intercept**

Plug-in ***x*=0** into the equation and solve for ***y***.

Practice

2) $-3x-6y=12$



x-intercept

Plug-in ***y*=0** into the equation and solve for ***x***.

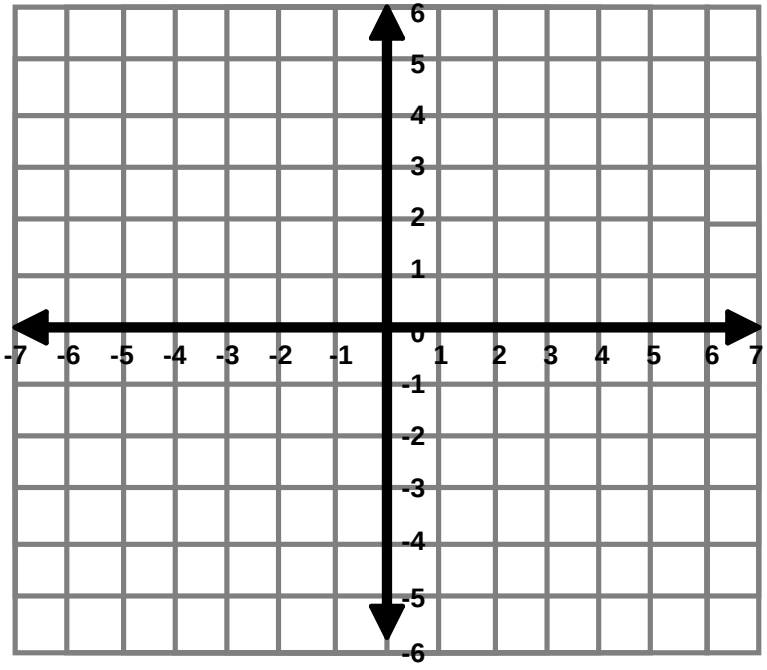
y-intercept

Plug-in ***x*=0** into the equation and solve for ***y***.

Graph the equation using the intercepts.

Practice

3) $\frac{1}{4}x + \frac{3}{4}y = 1$



_x_-intercept

Plug-in ***y*=0** into the equation and solve for ***x***.

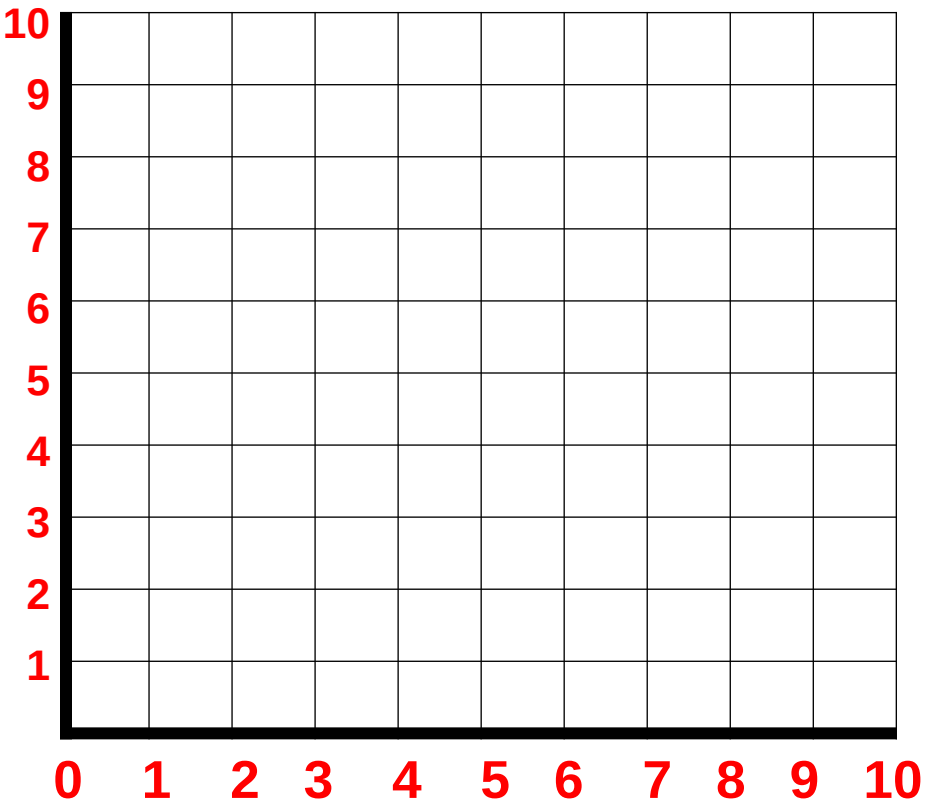
_y_-intercept

Plug-in ***x*=0** into the equation and solve for ***y***.

Graph the equation using the intercepts.

Exploring

4) Jason knows he has $100. He believes he has 10 dollar bills and 20 dollar bills. Write an equation for this if x is the number of 10 dollar bills and y is the number of 20 dollar bills.



Graph the equation.

Interpret the intercepts.

Sometimes there is no slope given or there *appears* to be 2 slopes! These two numbers are the number per x and the number per y. Each of these is multiplied to x and y, respectively. There is no beginning amount, nor are there points given. However, there may be a TOTAL involved. In this case, the equation can be written in $Ax + By = C$ form with C being the total amount. *Neither variable is dependent on the other in this case!*

1) A 100-point test has *x* questions worth 2 points apiece and *y* questions worth 4 points apiece.

What do the variables stand for:

***x*=_____, *y*= _____ What is the total? _____**

a) Write an equation that describes all possible numbers of questions that may be on the test.

b) If you have 24 questions worth 4 points apiece, how many questions will be worth 2 points apiece?

2) Louise has $36 in five-dollar bills and singles. How many of each type of bill does she have?

What do the variables stand for:

x=_____, y= _____ **What is the total?** _____

a) Write an equation.

b) If Louise has 2 five-dollar bills, how many singles does she have?

3) The Ramy family bought 4 sandwiches and 3 salads. They spent $24. Let x be the cost of a sandwich and y be the cost of a salad.

What do the variables stand for:

x=_____, y= _____ **What is the total?** _____

a) Write an equation.

b) If each sandwich costs $3.75, how much did each salad cost?

4) You are in charge of buying food for your family reunion. You spend $90 on hamburgers and turkey burgers. You pay $1.50 for each hamburger and $2 for each turkey burger. Let x be the number of hamburgers and y be the number of turkey burgers.

What do the variables stand for:

x=_____, y= _____ **What is the total?** _____

a) Write an equation.

b) If you bought 30 turkey burgers, how many hamburgers did you buy?

5) You are selling drinks at the carnival to raise money for your club. You sell lemonade for $2 per cup an orange drinks for $3 per cup. Your sales totaled $240. Let x be the number of cups of lemonade and y be the number of orange drinks.

What do the variables stand for:

x=_____, y= _____ **What is the total?** _____

a) Write an equation.

b) If you sold 60 cups of lemonade, how many cups of orange drink did you sell?