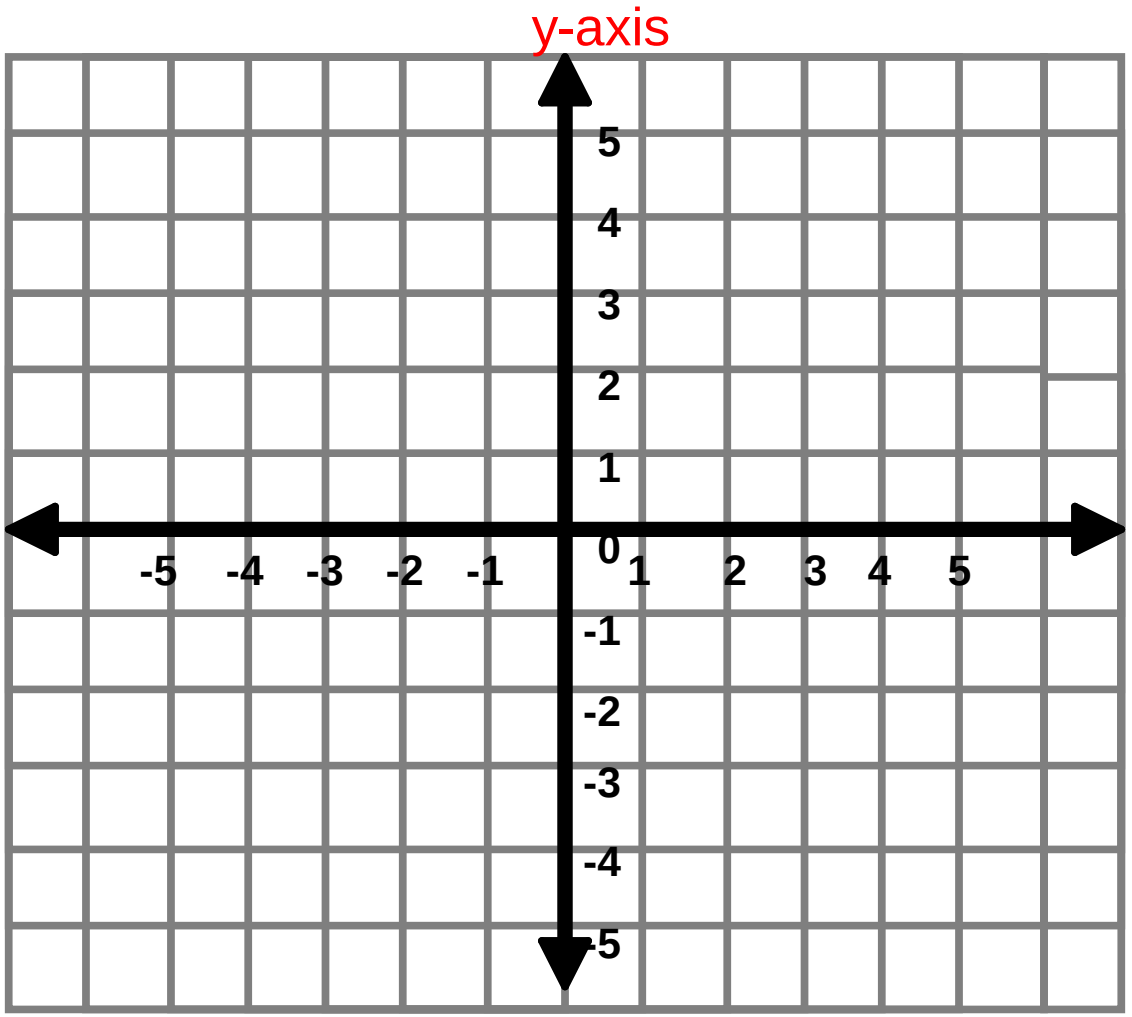
4.4 - 4.7 Review

Graphing Linear Equations

Graph the following equation using slope-intercept form.

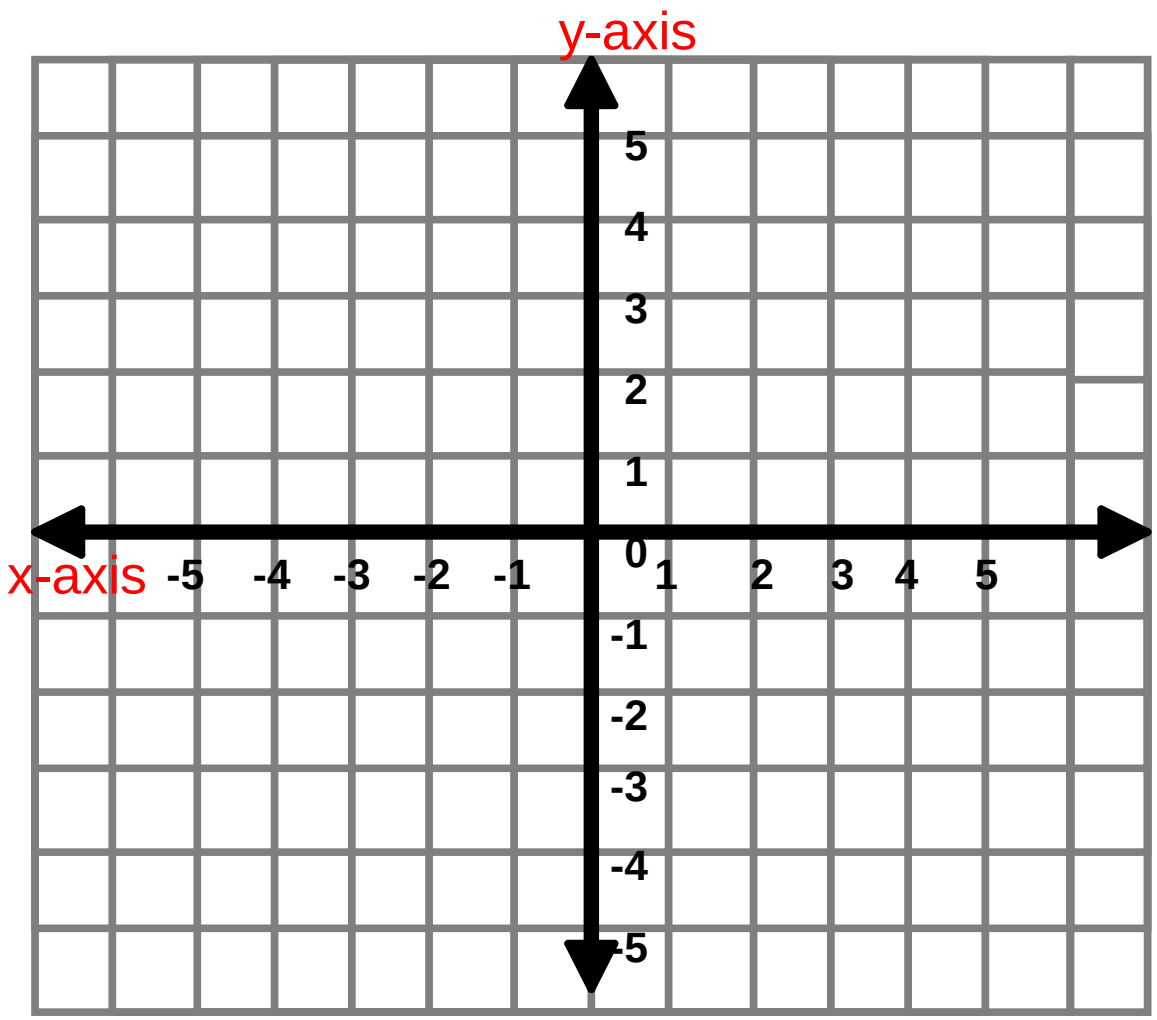
1) $y = 2x - 3$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

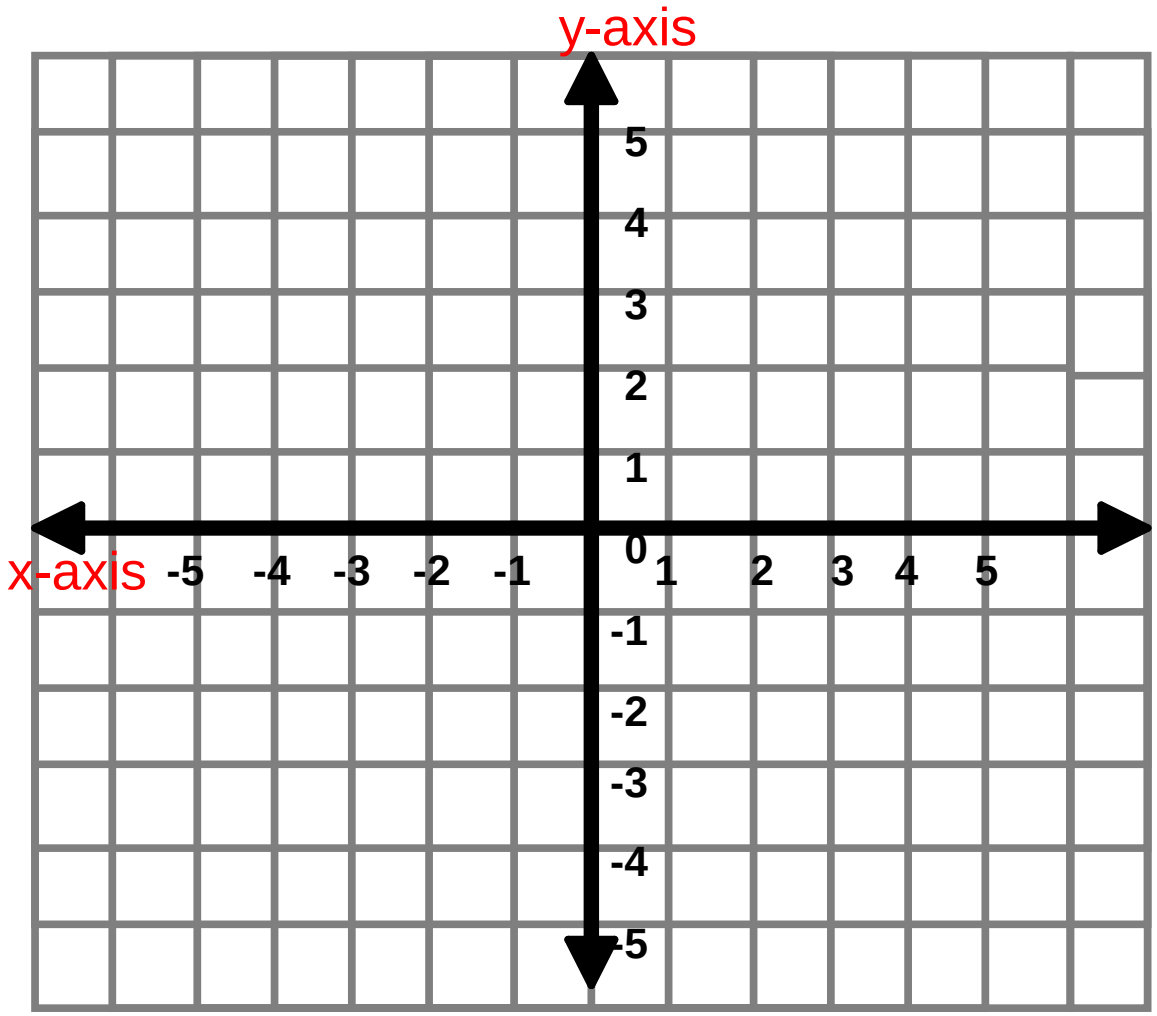
2) $y = -3x + 1$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

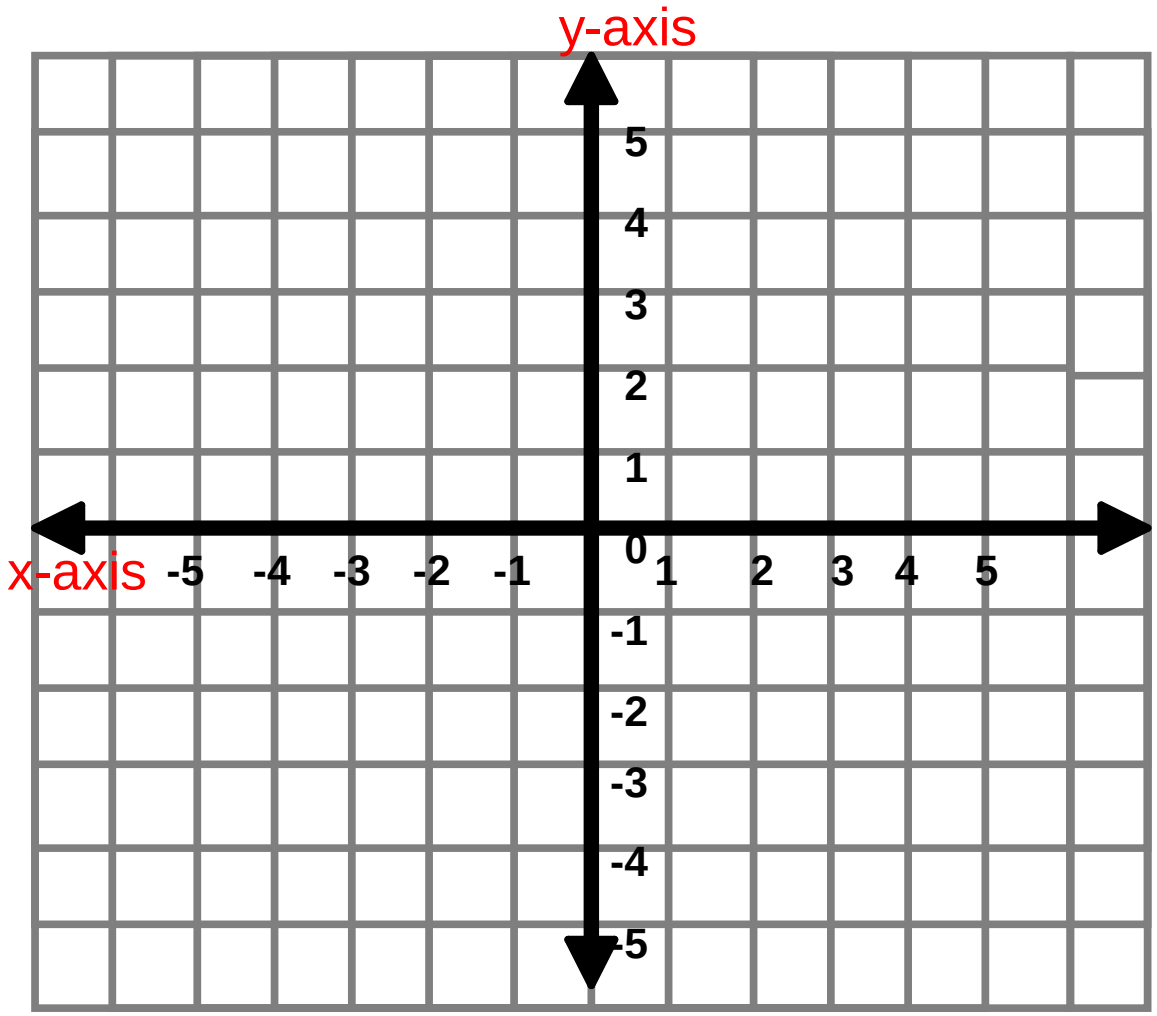
3) $y - 2 = \frac{3}{2}x$



Graphing Linear Equations

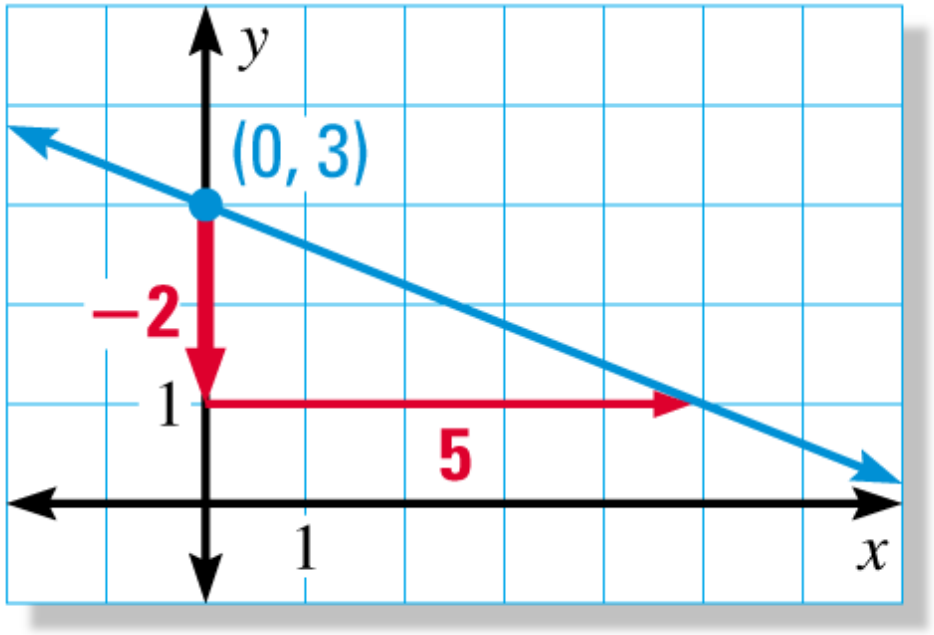
Graph the following equation using slope-intercept form.

4) $\frac{2}{3}x + y = +1$



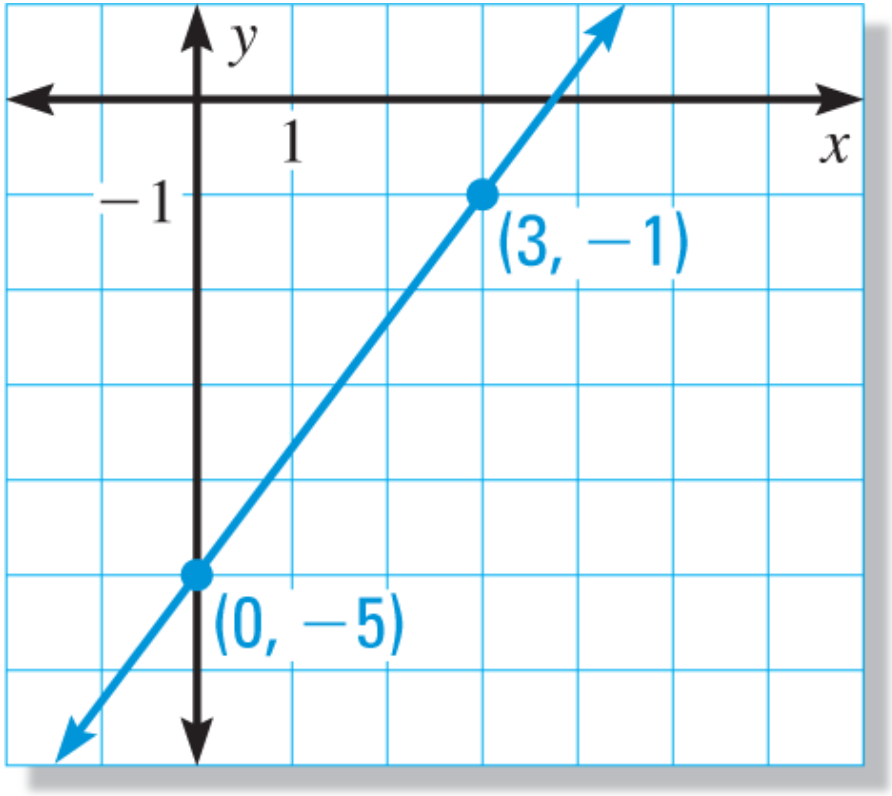
Example

5) Write an equation of the line shown in slope-intercept form.



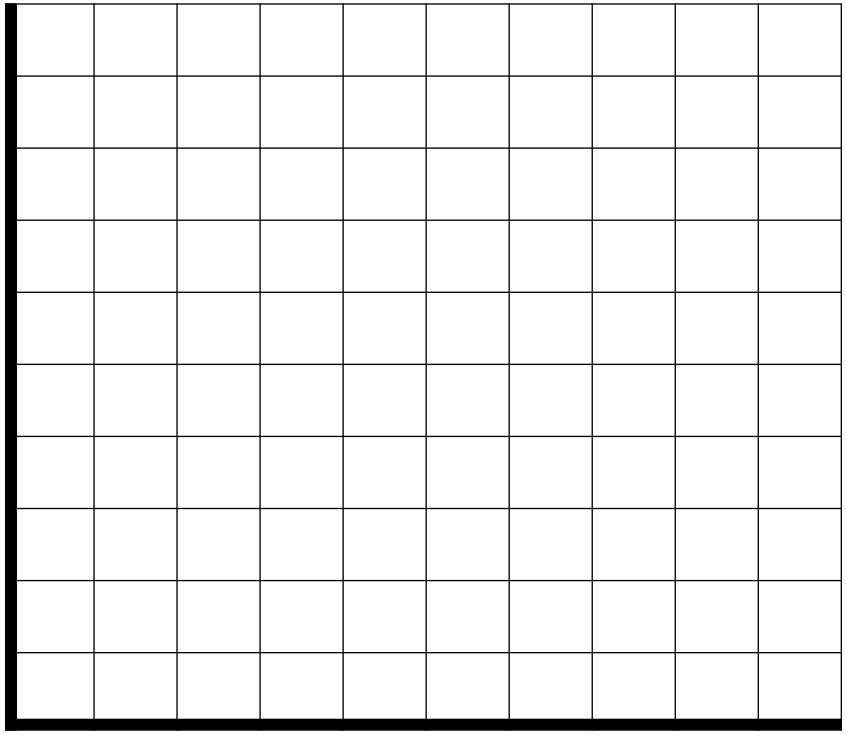
Example

5) **Write an equation of the line shown in slope-intercept form.**



APPLICATION

6) The cost y (in dollars) of taking a taxi x miles is $y = 2.5x + 2$.
(a) Graph the equation. (b) Interpret the y-intercept and the slope.



Writing an Equation of Line from Two Points

Step 1) Find the slope between the two points
Step 2) Plug the slope into slope-intercept form
Step 3) Find the y-int. using one of the two points

Example

7) Write an equation of the line that passes through the points (2, -1), (0, 6).

Writing an Equation of Line from Two Points

Step 1) Find the slope between the two points
Step 2) Plug the slope into slope-intercept form
Step 3) Find the y-int. using one of the two points

Example

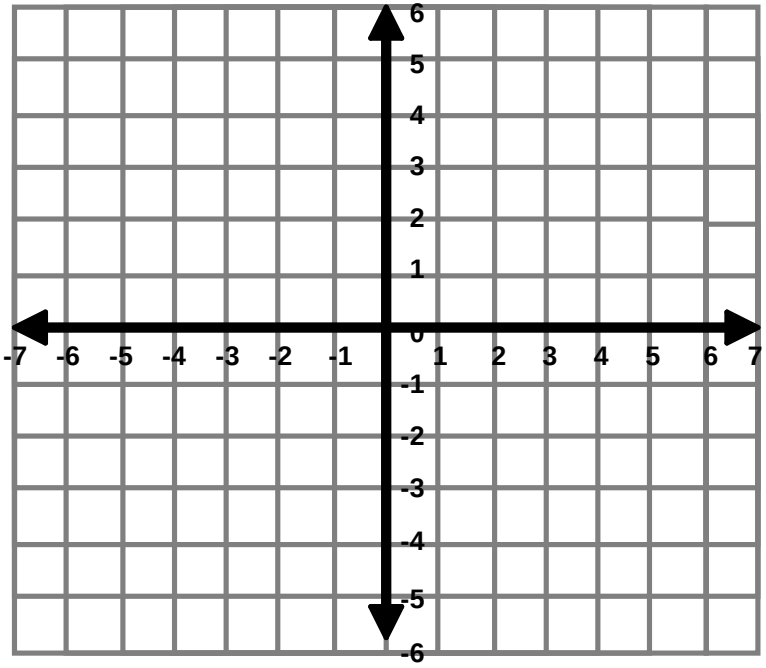
8) Write an equation of the line that passes through the points (3, -1), (0, -4).

Practice

9) Write an equation of the line that passes through the points (4, -3), (3, -6).

Practice

1) $4x - 6y = 12$



x-intercept

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

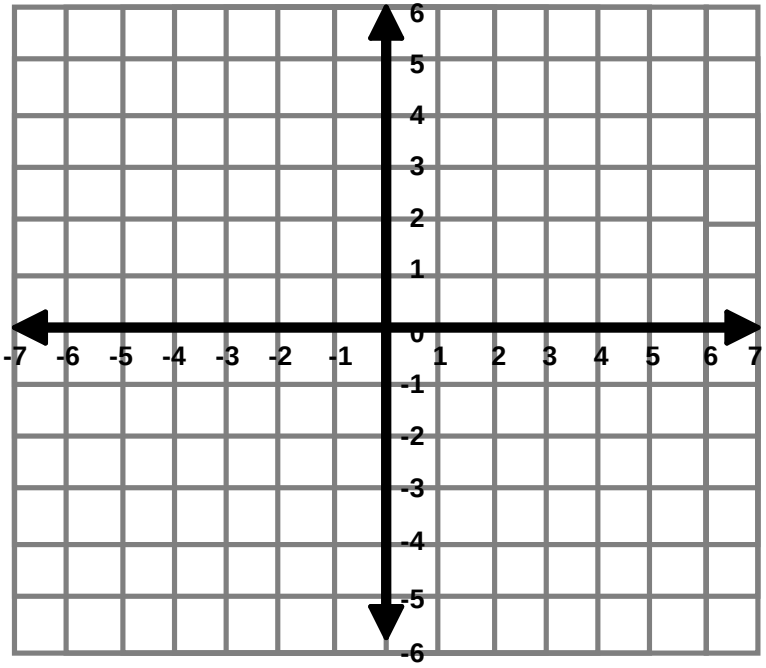
y-intercept

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

Graph the equation using the intercepts.

Practice

2) $2x - 3y = 12$



***x*-intercept**

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

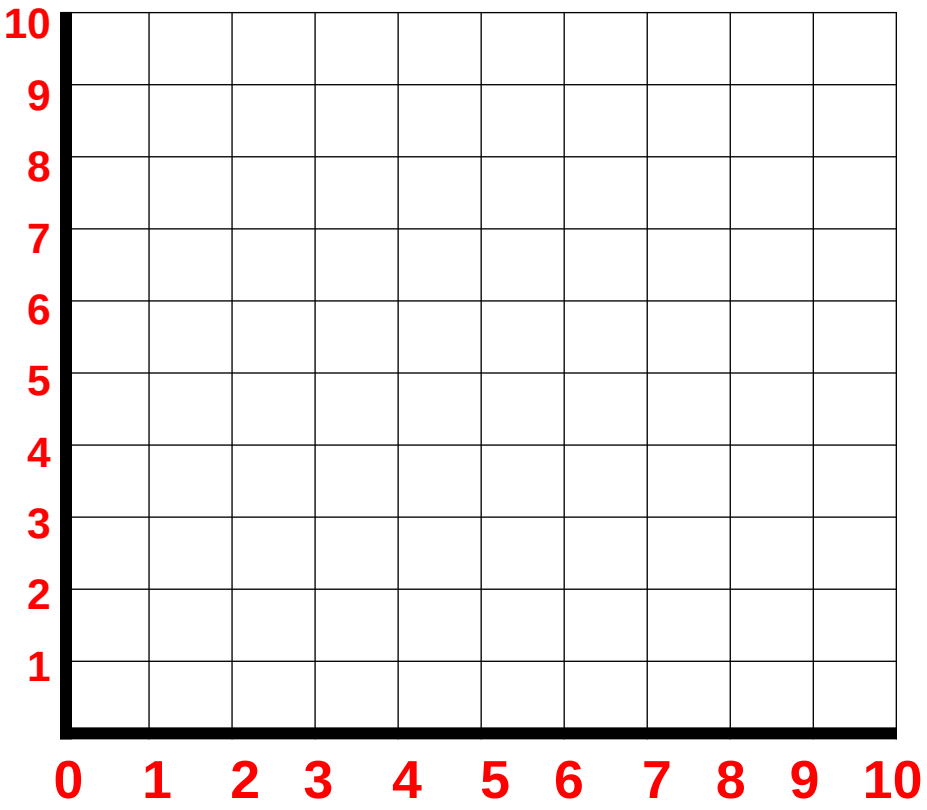
***y*-intercept**

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

Graph the equation using the intercepts.

Exploring

3) You have \$12 to spend on apples and bananas. Graph the equation $2x + 3y = 12$, where x is the number of apples and y is the number of bananas.



Interpret the intercepts.

Translating Word Problems into Slope-Intercept Form

10) For babysitting, Nicole charges a flat fee of $3, plus $5 per hour. Write an equation for the cost, *y,* after *x* hours of babysitting.

11) A canoe rental service charges a $20 transportation fee and $30 dollars an hour to rent a canoe. Write and graph an equation representing the cost, *y,* of renting a canoe for *x* hours.

Translating Word Problems into Standard Form

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

What is the total that is given? _____

What do the variables stand for:

x=_____, y= _____

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?

Translating Word Problems into Standard Form

13) 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 is the total that is given? _____

What do the variables stand for:

x=_____**, y=** _____

a. Write an equation.

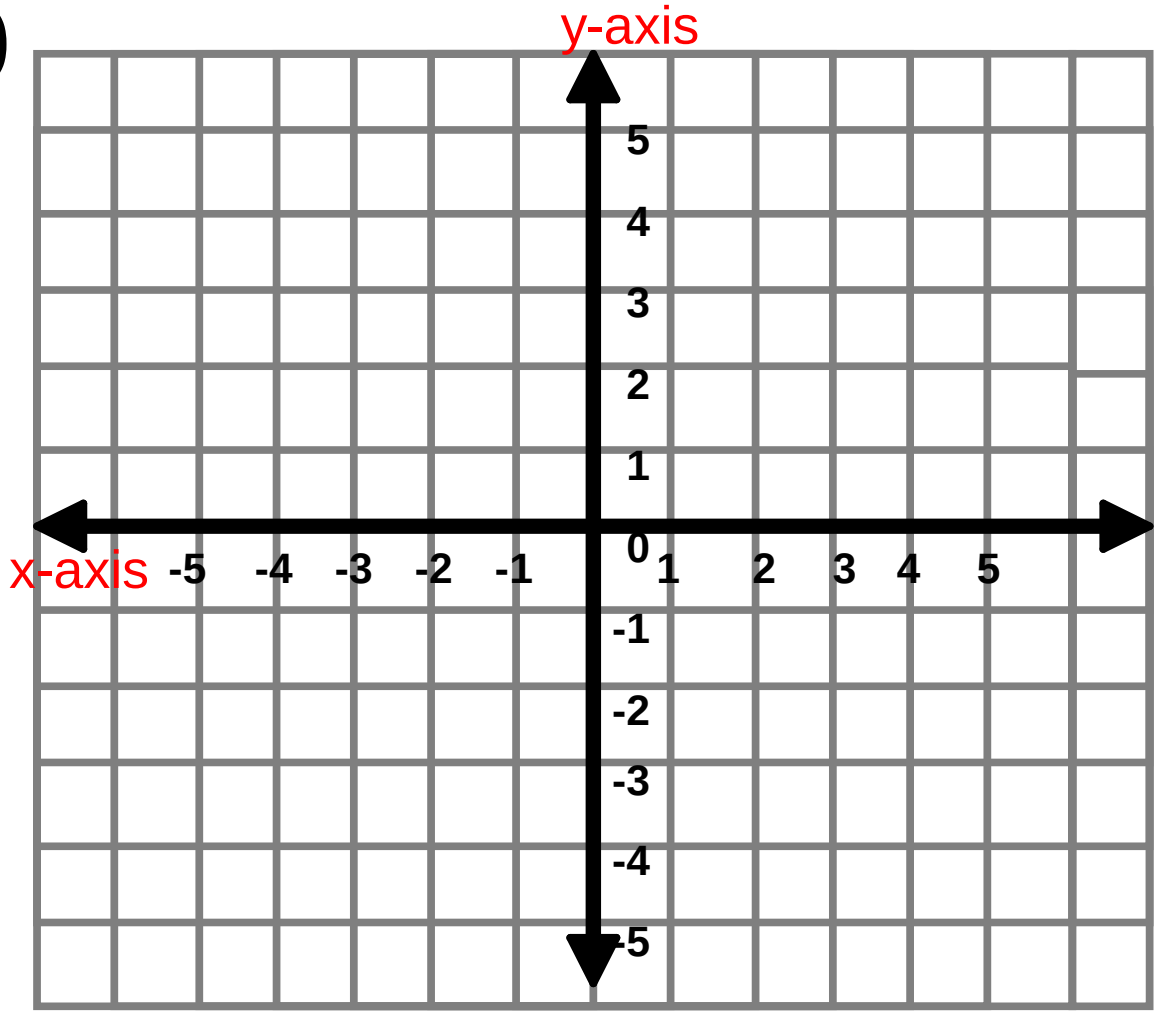
b. If each sandwich costs $3.75, how much did each salad cost?

Example

$$y - y_1 = m(x - x_1)$$

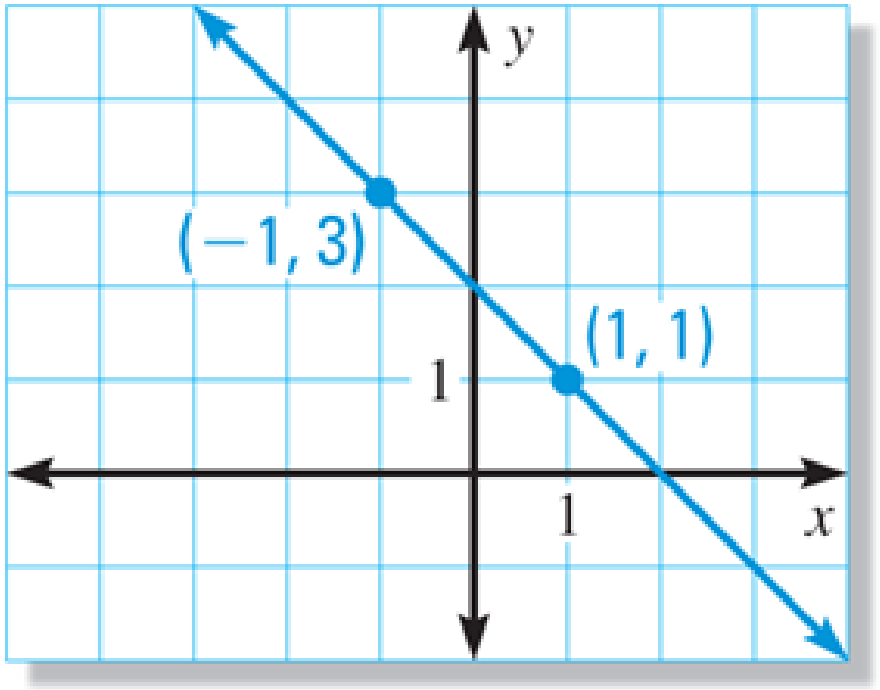
14) Graph the equation

$$y + 2 = \frac{2}{3}(x - 3)$$



Example

15) Write an equation of the line the graph in point-slope form.



Practice

Write an equation in point-slope form of the line that passes through the given point and has the given slope *m*.

16) $(4, -10); m = 2$

Practice

Write an equation in point-slope form of the line shown.

17)