

Graph the
equation.

Write an
equation in
point-slope
form.

Write an
equation
that passes
through two
points.

Write an
equation
from a
graph.

Example 1:

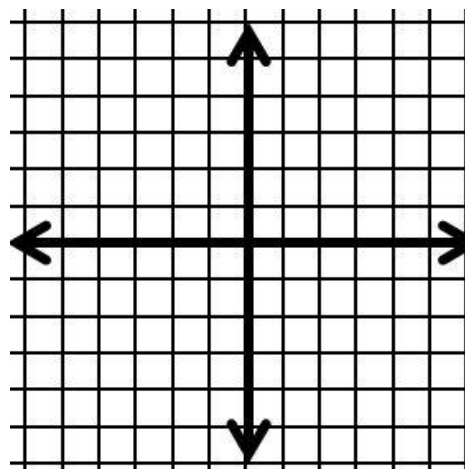
Write an equation in point-slope form of a line that passes through (4, 3) and has a slope of 2.

You try...

Write an equation in point-slope form of a line that passes through (7, -1) and has a slope of -6.

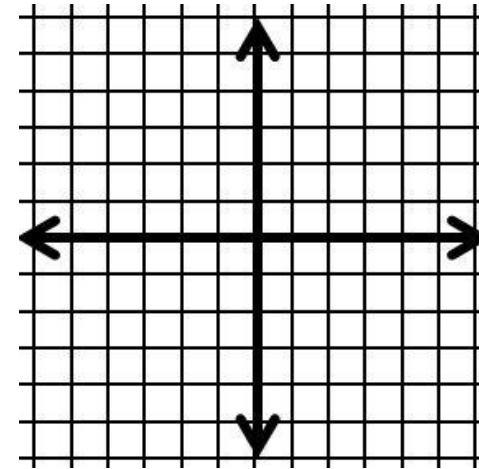
Example 2:

Graph the equation
 $y + 2 = \frac{2}{3}(x - 3)$.



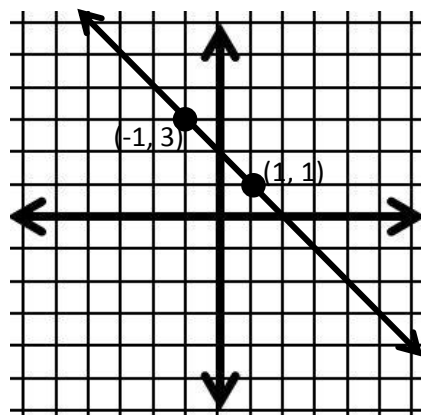
You try...

Graph the equation
 $y - 1 = \frac{3}{4}(x + 1)$.



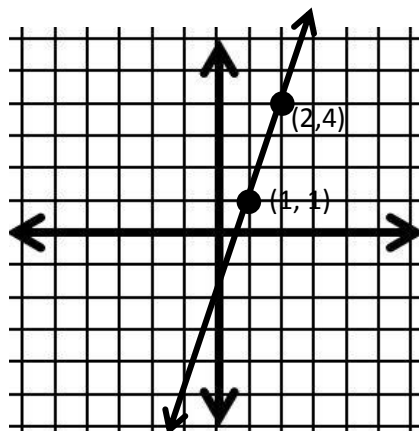
Example 3:

Write an equation in point-slope form of the line shown. Use the right hand point to write the equation.



You try...

Write an equation in point-slope form of the line shown. Use the right hand point to write the equation.



Example 4:

Write an equation of the line that passes through (-2, 3) and (1, -3). Use the first point to write the equation.

You try...

Write an equation of the line that passes through (-5, 4) and (-1, 2). Use the first point to write the equation.

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Example 1:

Write an equation in point-slope form of a line that passes through (4, 3) and has a slope of 2.

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

$$y - 3 = 2(x - 4)$$

You try...

Write an equation in point-slope form of a line that passes through (7, -1) and has a slope of -6.

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

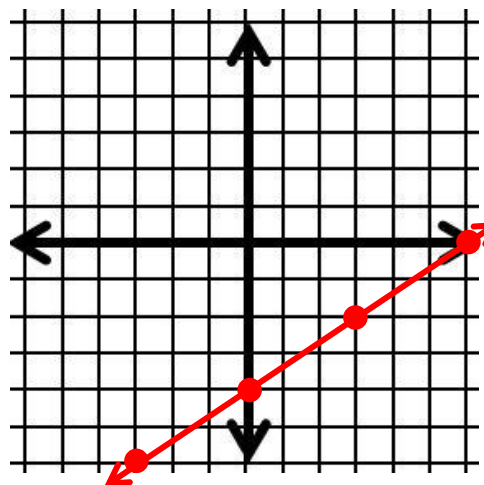
$$y - (-1) = -6(x - 7)$$

$$y + 1 = -6(x - 7)$$

Example 2:

Graph the equation
 $y + 2 = \frac{2}{3}(x - 3)$.

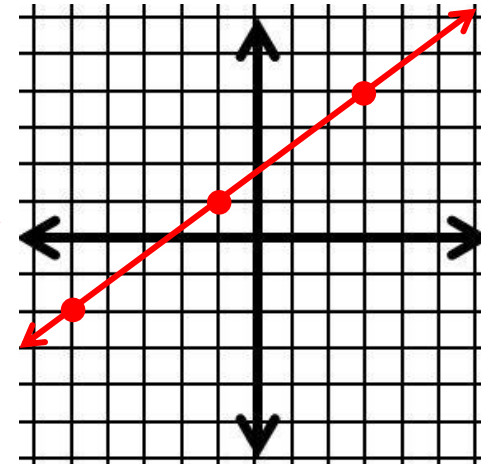
Start at (3, -2); slope = $\frac{2}{3}$



You try...

Graph the equation
 $y - 1 = \frac{3}{4}(x + 1)$.

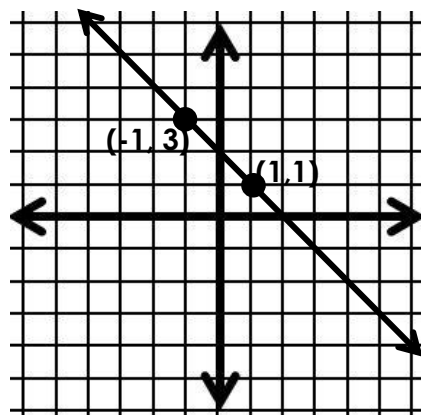
Start at (-1, 1); slope = $\frac{3}{4}$



Example 3:

Write an equation in point-slope form of the line shown. Use the right hand point to write the equation.

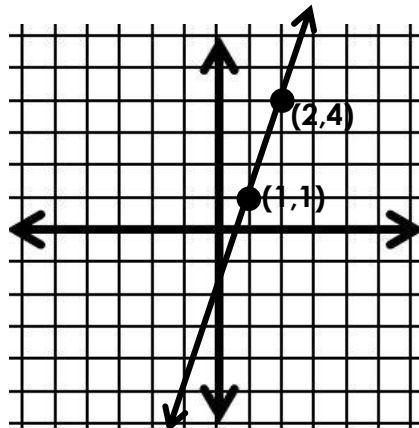
$$y - 1 = -(x - 1)$$



You try...

Write an equation in point-slope form of the line shown. Use the right hand point to write the equation.

$$y - 4 = 3(x - 2)$$



Example 4:

Write an equation of the line that passes through (-2, 3) and (1, -3). Use the first point to write the equation.

Step 1: Find the slope.

$$m = \frac{-3-3}{1-(-2)} = \frac{-6}{3} = -2$$

Step 2: Use the slope and one of the points to write the equation.

$$(y - y_1) = m(x - x_1)$$
$$(y - 3) = -2(x + 2)$$

You try...

Write an equation of the line that passes through (-5, 4) and (-1, 2). Use the first point to write the equation.

Step 1: Find the slope.

$$m = \frac{2-4}{-1-(-5)} = \frac{-2}{4} = \frac{-1}{2}$$

Step 2: Use the slope and one of the points to write the equation.

$$(y - y_1) = m(x - x_1)$$
$$(y - 4) = \frac{-1}{2}(x + 5)$$

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