

Point-Slope Form of a Line

The diagram illustrates the point-slope form of a line, $y - y_1 = m(x - x_1)$. A green box labeled "slope" has an arrow pointing to the variable m . A blue box labeled " (x_1, y_1) Point" has two arrows: one pointing to y_1 and another pointing to x_1 . The variables y and x are in black, while y_1 is blue and x_1 is red.

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

Determine the given (x, y) point and slope from the following equations

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

$$y - 5 = 3(x - 4)$$

$$y + 1 = -4(x + 3)$$

$$y + 2 = -(x - 8)$$

Determine the given (x,y) point and slope from the following equations

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

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

$$y + 2 = (x - 7)$$

$$y - 4 = -4x$$

Given the (x,y) point and slope, write the following lines in point-slope form.

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

(x,y) Point: $(4,5)$

Slope, m : -4

(x,y) Point: $(-1,6)$

Slope, m : 2

(x,y) Point: $(-3,-5)$

Slope, m : -1

Given the (x,y) point and slope, write the following lines in point-slope form.

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

Then solve for y to put equation in slope-intercept form.

(x,y) Point: $(2,4)$

Slope, m : 3

(x,y) Point: $(8,-3)$

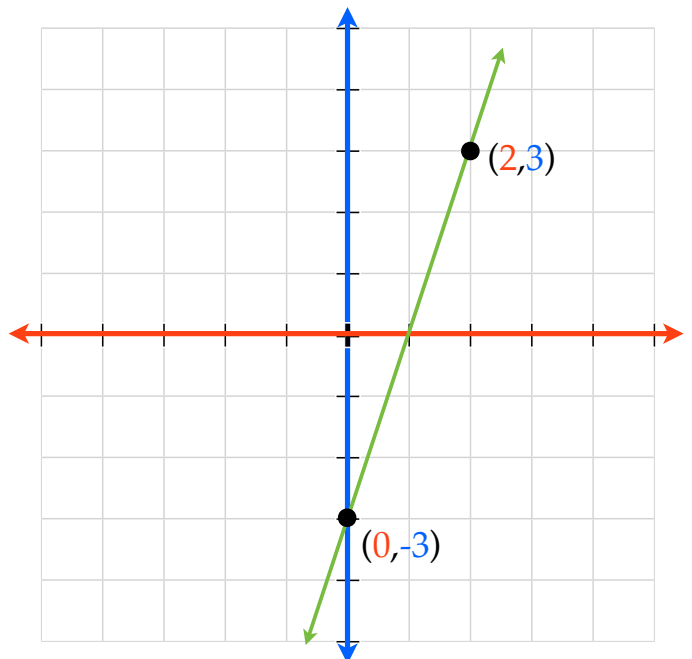
Slope, m : -1

Write the following lines in point-slope form

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

(x,y) Point

Slope, m

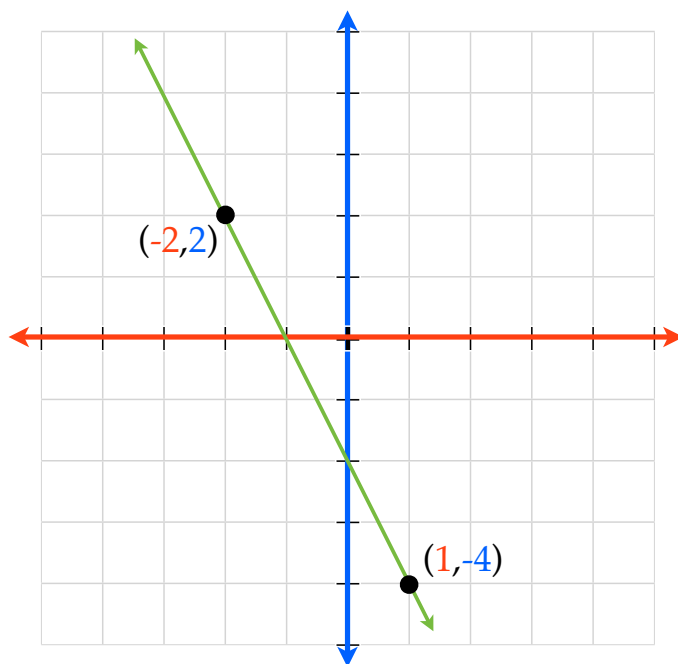


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(x,y) Point

Slope, m



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slope

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

(x_1, y_1) Point