

4.7

Writing Equations in Point-Slope Form

DO NOW

Write an equation of the line that passes through $(-2, 2)$ and $(0, 8)$.

POINT-SLOPE FORM of a Linear Equation

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

To use the point-slope form, you need
two things:

m = the slope

(x_1, y_1) = any given point

Example

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

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

Example

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

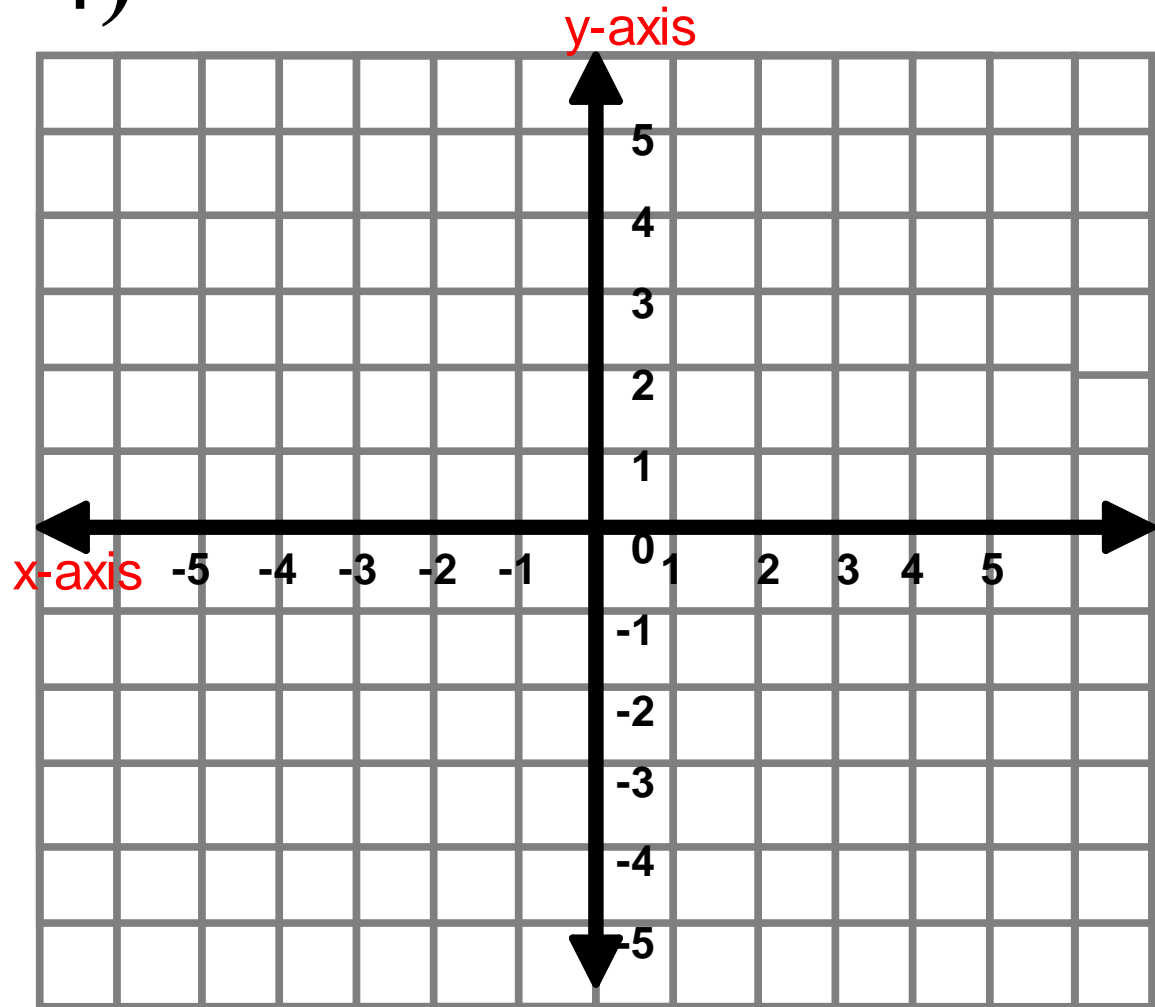
- b) Write an equation in point-slope form of the line that passes through the point (5,-2) with a slope of -4.

Example

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

c) Graph the equation

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

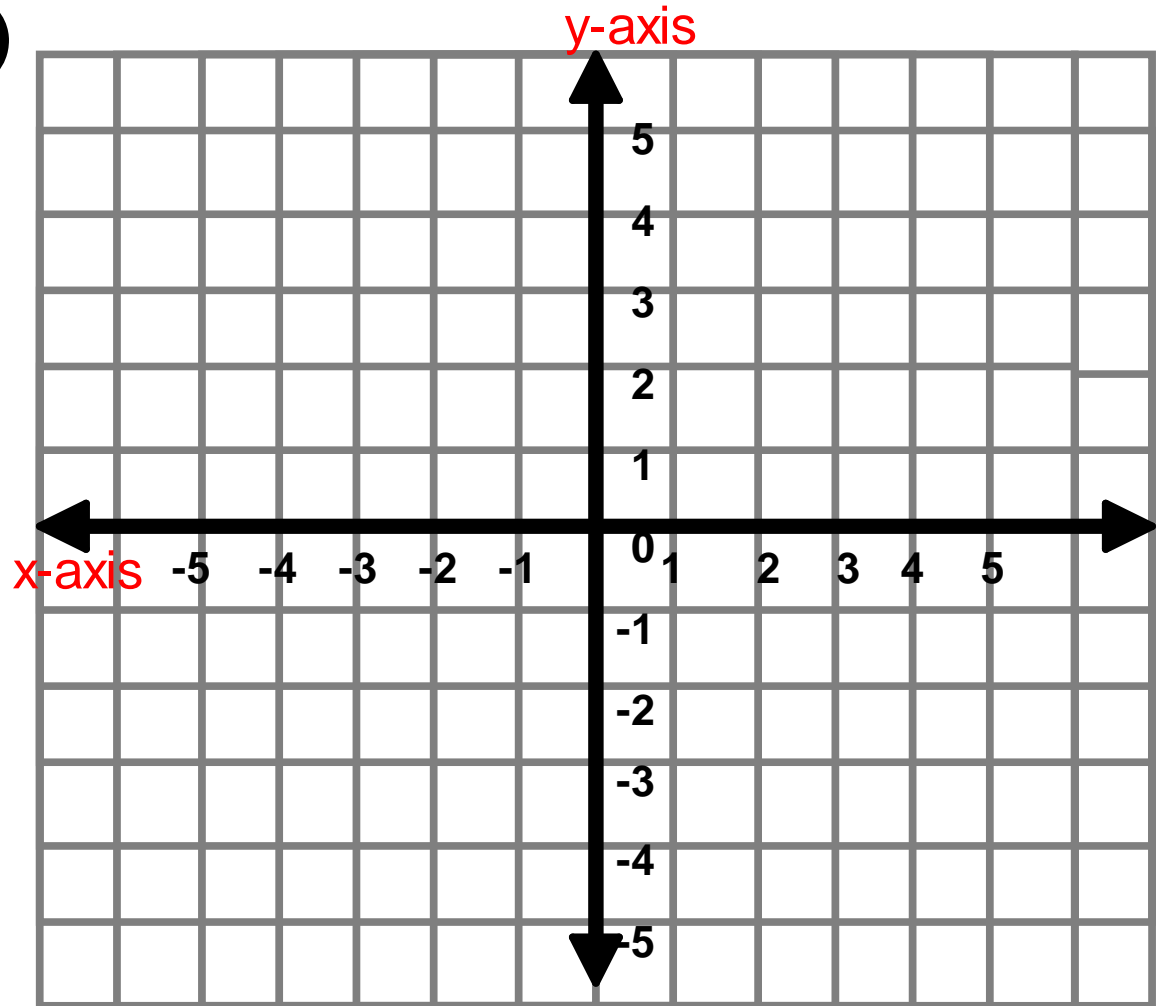


Example

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

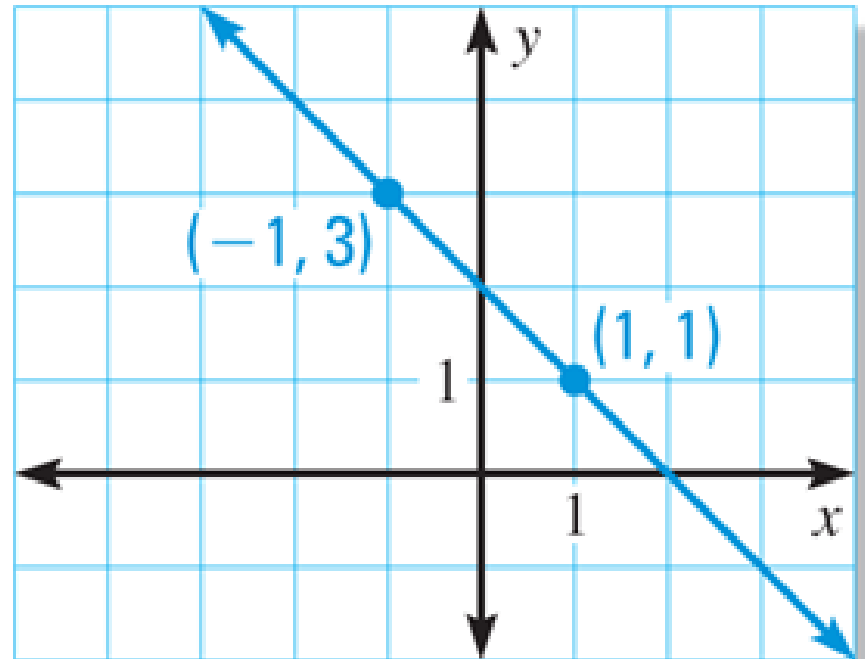
d) Graph the equation

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



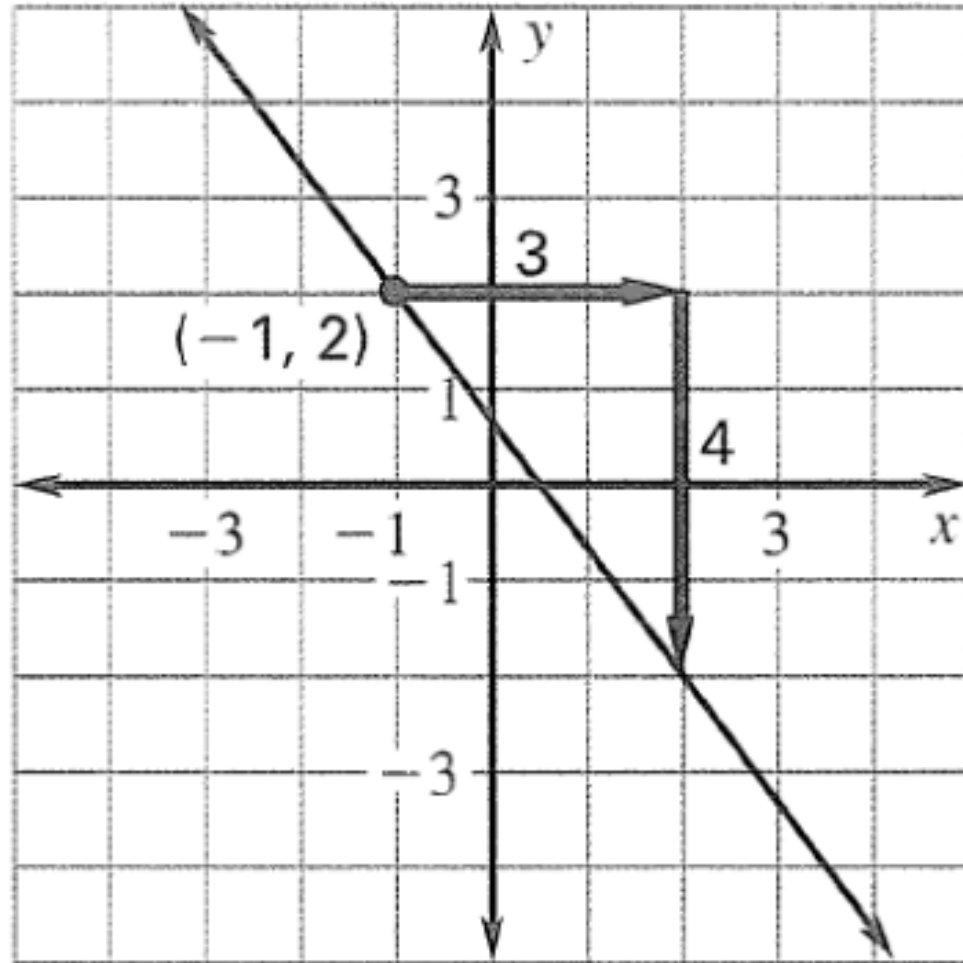
Example

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



Example

- f) 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 .

1. $(1, 9); m = -3$

Practice

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

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

Practice

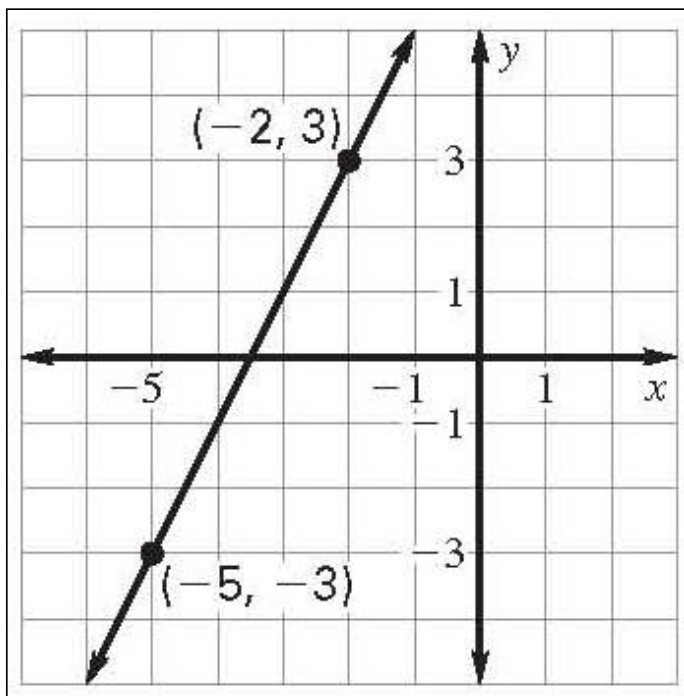
Write an equation in point-slope form of the line that passes through the given point and has the given slope m .

3. $(-5, 6); m = 4$

Practice

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

4)



Practice

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

5)

