

Point-Slope Form

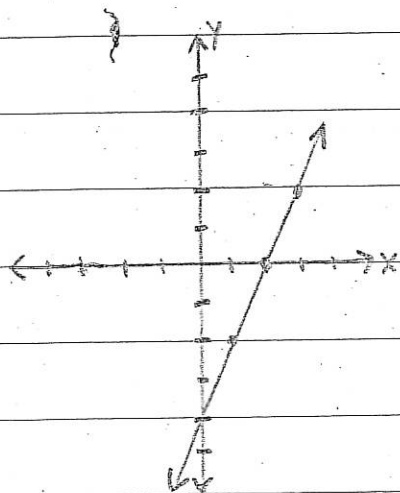
$$y - y_1 = m(x - x_1)$$

↑ ↑ ↑
y-Coordinate Slope x-Coordinate

- ① A line passes through $(8, -4)$ and has a slope of $\frac{2}{3}$.
What is an equation in point-slope form of the line?

$$y - y_1 = m(x - x_1)$$
$$\boxed{y + 4 = \frac{2}{3}(x - 8)}$$

- ② What is the graph of the equation
 $y + 2 = 2(x - 1)$



- ③ Given: $(-2, -3)$ and $(1, 4)$
Write an equation.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$
$$= \frac{4 - (-3)}{1 - (-2)}$$
$$= \frac{7}{3}$$

$$\boxed{y + 3 = \frac{7}{3}(x + 2)}$$

or

$$\boxed{y - 4 = \frac{7}{3}(x - 1)}$$