

$$y - y_1 = m(x - x_1) \rightarrow y = mx + b$$

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

Ex. 1) $\begin{matrix} x & y \\ (-1, & 3) \end{matrix}$; $m = -4$

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

$$y - 3 = -4x - 4$$

$$\begin{array}{r} +3 \\ \hline \end{array}$$

$$\boxed{y = -4x - 1}$$

Ex. 2) $\begin{matrix} x & y \\ (6, & 3) \end{matrix}$; $m = 2$

$$y - 3 = 2(x - 6)$$

$$y - 3 = 2x - 12$$

$$\begin{array}{r} +3 \\ \hline \end{array}$$

$$\boxed{y = 2x - 9}$$

Ex. 3) $(6, 3)$; $m = -2$

$$\frac{y - y_1}{x - x_1}$$

Write an equation of the line that passes through the given points.

Ex. 4) $\begin{matrix} x & y & x & y \\ (-2, & 5) & (2, & -1) \end{matrix}$

$$m = \frac{5 - (-1)}{-2 - 2} = \frac{6}{-4} = -\frac{3}{2}$$

$$y - 5 = -\frac{3}{2}(x + 2)$$

$$y - 5 = -\frac{3}{2}x - 3$$

$$\begin{array}{r} +5 \\ \hline \end{array}$$

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

Ex. 6) $(3, 0)$, $(2, -4)$

Ex. 5) $\begin{matrix} x & y & x & y \\ (1, & -2) & (-5, & 4) \end{matrix}$

$$m = \frac{-2 - 4}{1 - (-5)} = \frac{-6}{6} = -1$$

$$y + 2 = -1(x - 1)$$

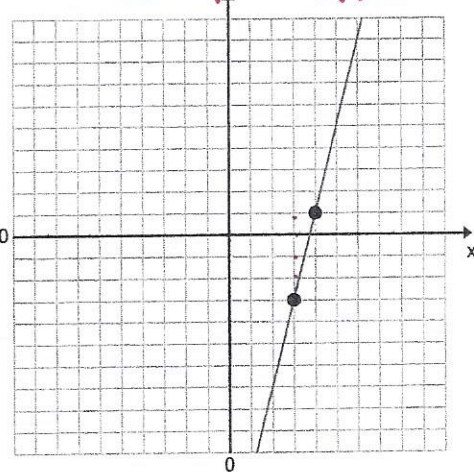
$$y + 2 = -x + 1$$

$$\begin{array}{r} -2 \\ \hline \end{array}$$

$$\boxed{y = -x - 1}$$

Ex. 7)

$$m = 4 \quad (4, 1)$$



⑤ $(5, -4)$ $m = \frac{1}{3}$

$$y + 4 = \frac{1}{3}(x - 5)$$

$$3(y + 4) = \left(\frac{1}{3}x - \frac{5}{3}\right) 3$$

$$3y + 12 = x - 5$$

$$\begin{array}{r} -12 \\ \hline \end{array}$$

$$\boxed{y = \frac{1}{3}x - \frac{17}{3}}$$

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

$$y - 1 = 4x - 16$$

$$\begin{array}{r} +1 \\ \hline \end{array}$$

$$\boxed{y = 4x - 15}$$