

Write in point-slope form the equation of the line that is parallel to the given line and passes through the given point. Your final answer should be in slope-intercept form.

1. $2x + y = 4, (-1, -1)$

2. $-3x + 2y = 6, (2, 4)$

3. $5x - 2y = 10, (3, 3)$

m = _____

m = _____

m = _____

point _____

point _____

point _____

point-slope: _____

point-slope: _____

point-slope: _____

Page 20

Standard Form

Write in point-slope form the equation of the line that is perpendicular to the given line and passes through the given point. Your final answer should be in slope-intercept form.

1. $2x + y = 4, (-1, -1)$

2. $-3x + 2y = 6, (2, 4)$

3. $5x - 2y = 10, (3, 3)$

$$\begin{array}{r} 2x + y = 4 \\ -2x = -2x \\ \hline y = 4 - 2x \\ m = -\frac{2}{1} \end{array}$$

$$\perp \text{ Line}$$

$$m = \frac{1}{2}$$

 point $(-1, -1)$

point-slope: $y = y_1 + m(x - x_1)$

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

$$\begin{array}{r} -3x + 2y = 6 \\ +3x = +3x \\ \hline 2y = 6 + 3x \\ \frac{2y}{2} = \frac{6}{2} + \frac{3x}{2} \\ y = 3 + \frac{3}{2}x \\ m = \frac{3}{2} \end{array}$$

$$\perp$$

$$m = -\frac{2}{3}$$

 point $(2, 4)$

point-slope: $y = 4 - \frac{2}{3}(x - 2)$

$y = 4 - \frac{2}{3}(x - 2)$

$$\begin{array}{r} 5x - 2y = 10 \\ -5x = -5x \\ \hline -2y = 10 - 5x \\ \frac{-2y}{-2} = \frac{10 - 5x}{-2} \\ y = -5 + \frac{5x}{2} \\ m = \frac{5}{2} \end{array}$$

$$\perp$$

$$m = -\frac{2}{5}$$

 point $(3, 3)$

point-slope: $y = 3 - \frac{2}{5}(x - 3)$

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