

6.5 continued...

Extra questions

1. What is the equation of a line in slope-point form that is perpendicular to $y = -3x - 1$ and goes through the point $(5, -3)$?

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

slope

$$\text{slope} \Rightarrow \frac{-3}{1}$$

$$\text{perpendicular slope} \Rightarrow \frac{1}{3}$$

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

Slope formula $\frac{y_2 - y_1}{x_2 - x_1}$

Slope y-intercept form $\Rightarrow y = mx + b$

slope y-int

Slope point form $\Rightarrow y - y_1 = m(x - x_1)$

slope
point (x, y_1)

Worksheet April 10

1. $-\frac{9}{7}$

2. $y = -4x - 3$
↑ slope ↑ y-int

New slope is perpendicular, new y-int
-4

$\frac{1}{4}$

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

3a) $(-3, 4)$ $(-1, 7)$ $y = mx + b$

slope $\Rightarrow \frac{3}{2}$

$y = \frac{3}{2}x + b$

use a point (x, y)

$4 = \frac{3}{2}(-3) + b$ He

$4 = -\frac{9}{2} + b$

$4 + \frac{9}{2} = b$

$\frac{8}{2} + \frac{9}{2} = b$

$\frac{17}{2} = b$

$\rightarrow y = \frac{3}{2}x + \frac{17}{2}$

b) slope = $\frac{3}{2}$
use pt $(-3, 4)$
 $y - 4 = \frac{3}{2}(x + 3)$

or

use pt. $(-1, 7)$
 $y - 7 = \frac{3}{2}(x + 1)$