



Writing an Equation of a Line Given a Point and the Slope

Name: _____ Date: _____

Directions: Find the equation of the line using point slope formula.

Example: Write an equation of the line that passes through the point $(-3, 5)$ and has a slope of 7 in point-slope form. Then, rewrite the equation in slope-intercept form.

Use point-slope form with $(x_1, y_1) = (-3, 5)$ and $m=7$

$$y - y_1 - m(x - x_1) \rightarrow y - 5 = 7(x - (-3)) \rightarrow \boxed{y - 5 = 7(x + 3)}$$

$$y - 5 = 7(x + 3) \Rightarrow y - 5 = 7x + 21 \Rightarrow \boxed{y = 7x + 26}$$

1. Point $(-2, 2)$ with slope $\frac{1}{2}$
2. Point $(0, 3)$ with slope -3
3. Point $(6, -2)$ with slope $\frac{-2}{3}$
4. Point $(-2, -1)$ with slope 2
5. Point $(1, 2)$ with slope 0
6. Point $(-1, 3)$ with slope 6
7. Point $(1, -5)$ with slope 0
8. Point $(3, 2)$ with slope 1