**Lesson 8 Reteach**

***Write Linear Equations***

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| **Point-slope form** is when an equation is written in the form *y* – *y*1 = *m*(*x* – *x*1), where (*x*1, *y*1) is a given point on a nonvertical line and m is the slope of the line. |

**Example**

**Write an equation in point***-***slope form and slope***-***intercept form for a line that passes through (2, –5) and has a slope of 4.**

**Step 1** *y* – *y*1 = *m*(*x* – *x*1) Point-slope form

 *y* – (–5) = 4(*x* – 2) (*x*1, *y*1) = (2, –5), *m* = 4

 *y* + 5 = 4(*x* – 2) Simplify.

**Step 2** *y* + 5 = 4(*x* – 2) Write the equation.

 *y* + 5 = 4*x* – 8 Distributive Property

 – 5 = – 5 Addition Property of Equality

 *y* = 4*x* – 13 Simplify.

Check: Substitute the coordinates of the given point in the equation.

 *y* = 4*x* – 13

 –5 ≟ 4(2) – 13

 –5 = –5 🗸

**Exercises**

**Write an equation in point***-***slope form and slope***-***intercept form for each line.**

 **1.** passes through (–4,0), slope = 2 **2.** passes through (–2, –1), slope = $\frac{1}{2} $

 **3.** passes through (3, –6), slope = 2 – 3 **4.** passes through (–4, –3), slope = –2