Name: _____

3.5.D2 – POINT-SLOPE FORM OF LINEAR EQUATIONS

Past due on: _____ Period: _____

Graph the line described. Write the equation of a line that passes through the given point and has the given slope. Then write the equation in slope-intercept form.
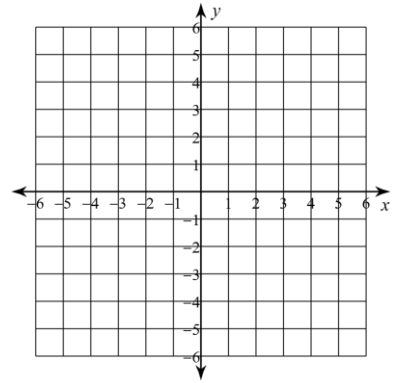
1. $(4, 2); m = -\dfrac{5}{2}$
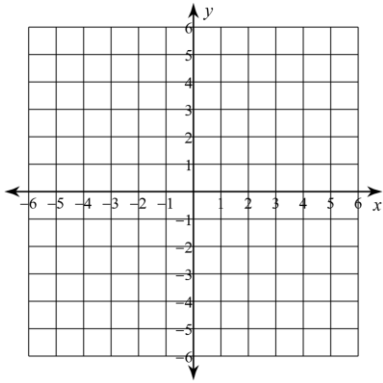
2. $(-4, 0); m = -3$
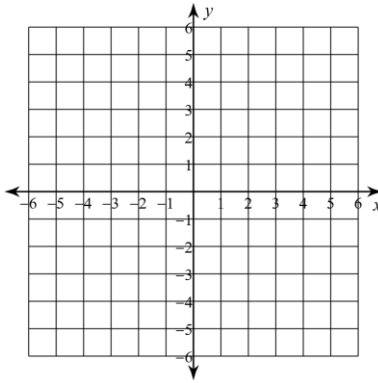
3. $(-2, -5); m = \dfrac{3}{4}$

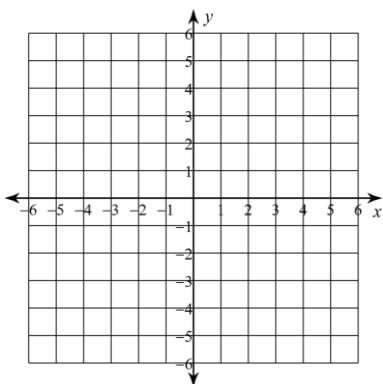Write the equation of a line that passes through the given points. Then write the equation in slope-intercept form.
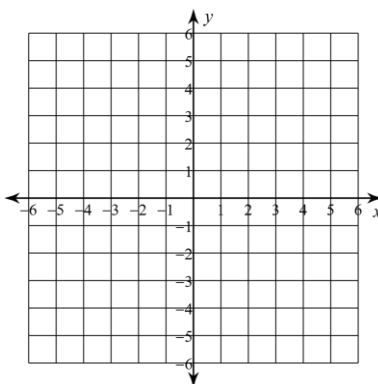
4. $(1, 4) \,\&\, (-1, 1)$

5. $(2, 4) \,\&\, (-3, -6)$

6. $(-6, 6) \,\&\, (3, 3)$

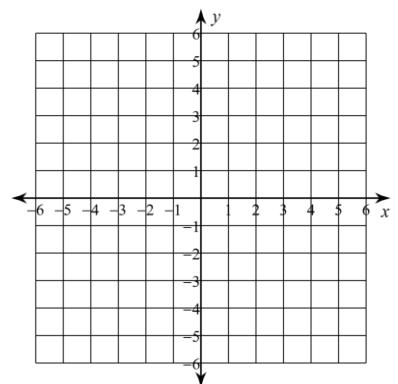Graph the line whose equation is given.

7. $y = 5x - 3$

8. $y = -x + 2$

9. $y = \dfrac{2}{3}x - 5$

Identify the independent and dependent quantities (including units) in each problem situation. Assign a variable to each quantity. Then write a function, in slope-intercept form, to represent the problem situation. *Refer to the 2.1 example "Identifying Dependent & Independent Quantities and Writing an Expression" in the Chapter 2 Summary.*

10. Suppose you have a $5-off coupon at a fabric store. You buy fabric that costs $7.50 per yard. The total amount of money spent is a function of the yards of fabric bought.

    Independent quantity: _____ *Variable:* _____

    Dependent quantity: _____ *Variable:* _____

    Function: _____

11. Polar bears are listed as a threatened species. In 2005, there were about 25,000 polar bears in the world. The number of polar bears declines by 1000 each year. The polar bears are a function of the years since 2005.

    Independent quantity: _____ *Variable:* _____

    Dependent quantity: _____ *Variable:* _____

    Function: _____

12. Suppose you are putting together a 5000-piece puzzle. You have already placed 175 pieces. Every minute you place 10 more pieces. The pieces placed is a function of the time.

    Independent quantity: _____ *Variable:* _____

    Dependent quantity: _____ *Variable:* _____

    Function: _____

You are given the responsibility of providing drinks for the weekly math club meetings. You have decided to bring juice boxes. Each grape juice box costs $2 and each pineapple-orange juice box costs $3.50. This week you have $28 to spend on juice.

13. Define variables and write an equation to represent the situation. *Refer to the 3.2 example "Writing & Solving a Function in Two Variables" in the Chapter 3 Summary.*

    Let x = _____ *& y =* _____

    Equation: _____

14. What is the *x*-intercept of this equation? What does the *x*-intercept represent in the problem situation?

15. What is the *y*-intercept of this equation? What does the *y*-intercept represent in the problem situation?