

Algebra 1: Unit 5 Problem Set B

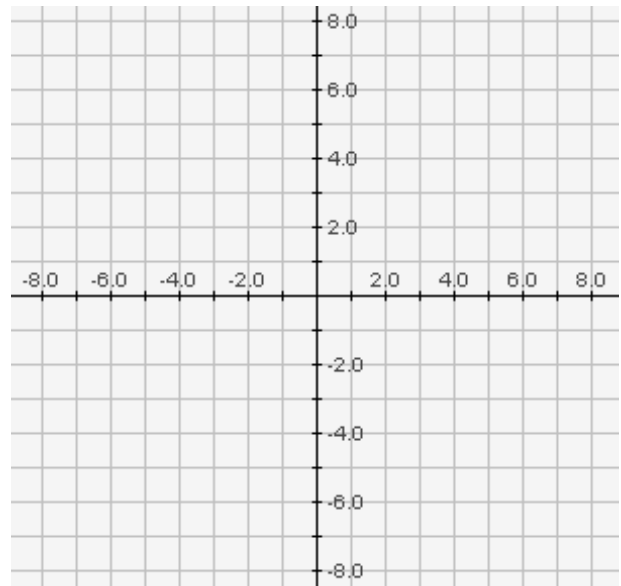
Name _____

Date _____ Period _____

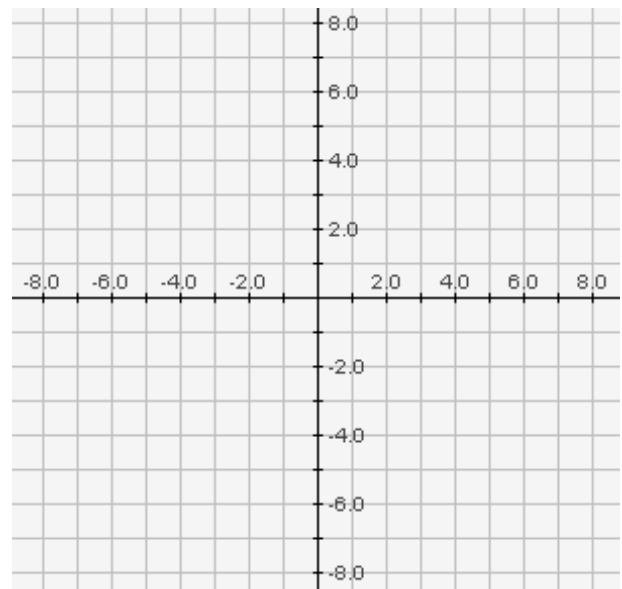
INSTRUCTIONS FOR PROBLEMS #1-4:

- Write an equation in **point-slope form** based on the information given.
- Re-write the equation in **BOTH slope-intercept form AND standard form**.
- **FINALLY, GRAPH YOUR RESULT** using both slope-intercept form **AND** the intercepts method.
- No matter how you write and graph the equation, **EVERYTHING SHOULD AGREE!**

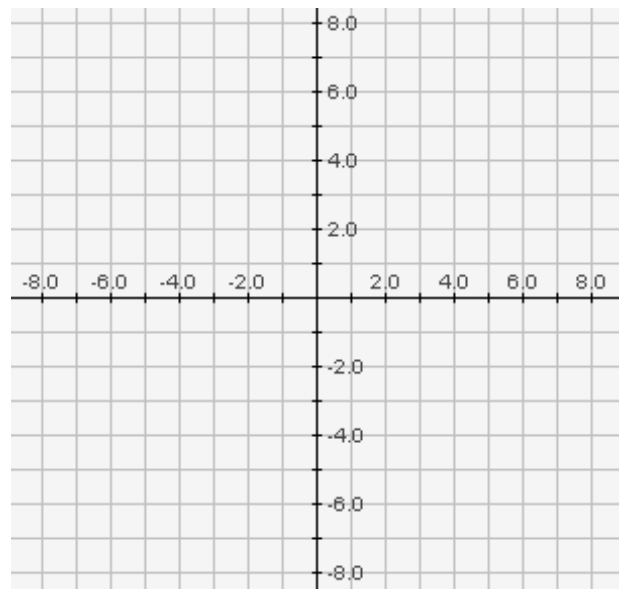
1. $(12, -2), m = \frac{1}{3}$



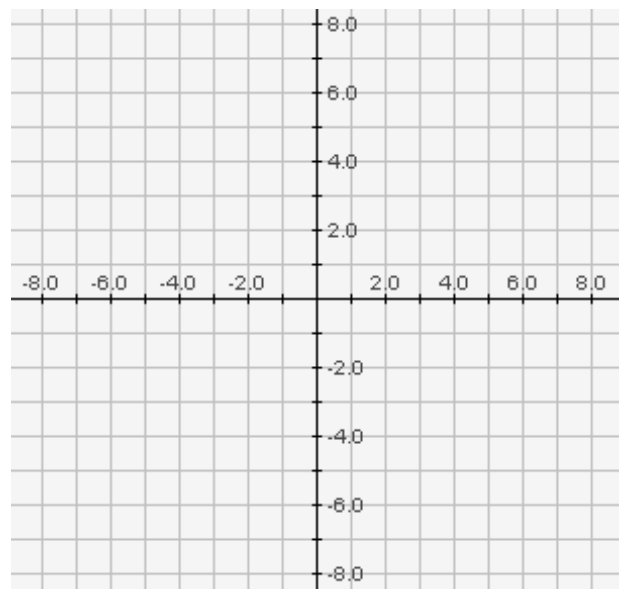
2. $(-4, 6)$, $m = -2$



3. $(4, \frac{5}{3}), (-2, \frac{2}{3})$



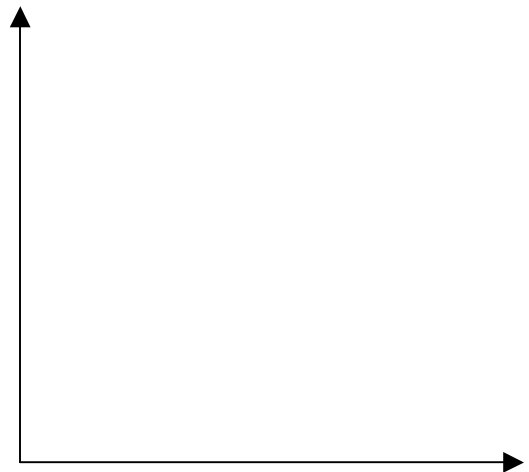
4. $(-4, -5), (-9, 1)$



5. A candle begins burning at 7:30pm and decreases in height at a constant rate. Its original height (h) is 12 inches. At 8:00pm, the height of the candle is 8 inches.
(Hint: Use 7:30 as time zero on your independent axis)

RELATE – DEFINE – WRITE

- Draw a graph showing the change in height of the candle.
- Write an equation that relates the height of the candle to the time it has been burning.
- Given that a linear relationship is applicable, at what time will the candle be lit will it burn out?



6. When the Farabaugh family leaves town on vacation, they put their dog Clarence in a kennel. The kennel charges \$8 per day. In addition, there is a \$15 fee for a mandatory flea bath (just one bath for the entire stay).

RELATE – DEFINE – WRITE

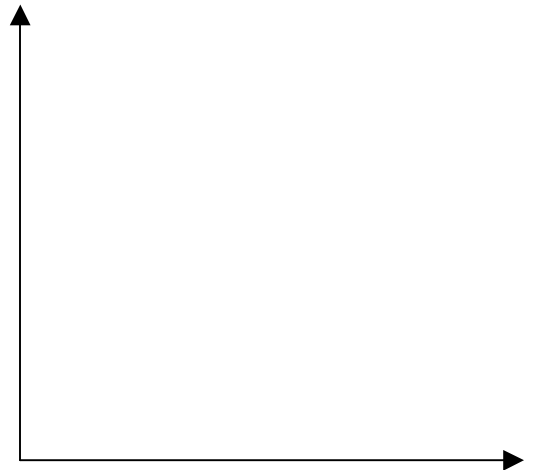
- a. Draw a graph showing the cost of a stay that can last up to 2 weeks (14 days).
- b. Write an equation that relates the length of the stay with the cost.
- c. What is the significance of the y -intercept?



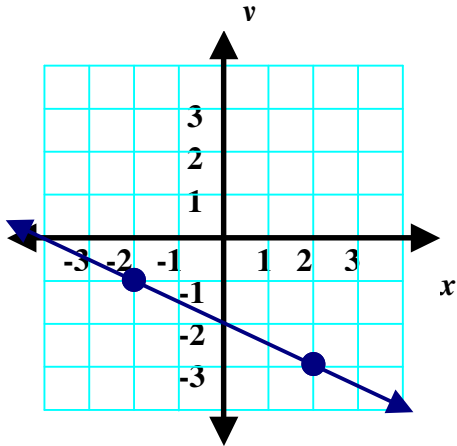
7. A tire dealer sells Supreme tires for \$48 each and Prestige tires for \$72 each. During one month, the combined sales for both tires totaled \$13,824.

RELATE – DEFINE – WRITE

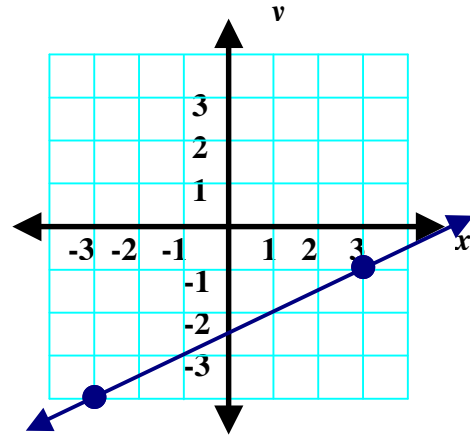
- a. Write an equation that you can use to determine the possible combinations of THE NUMBER OF Supreme tires (x) and the Prestige tires (y) sold.
- b. Graph the equation in the coordinate plane.
- c. **IN THE CONTEXT OF THIS PROBLEM**, what is the meaning of the x - and y -intercepts on your graph.



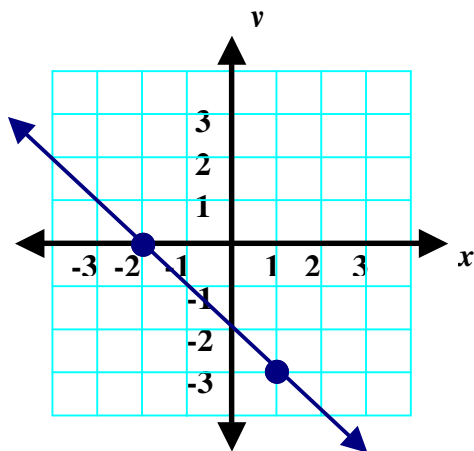
Write an equation in **slope-intercept form** for each of the following graphs. Then, re-write the equation in **standard form**. (*N.B. Assume all points graphed have integral coordinates*)



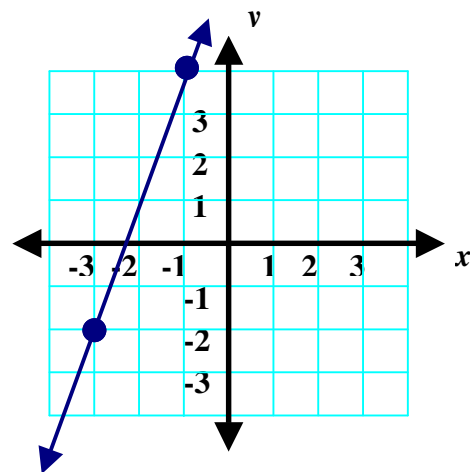
8.



9.



10.



11.