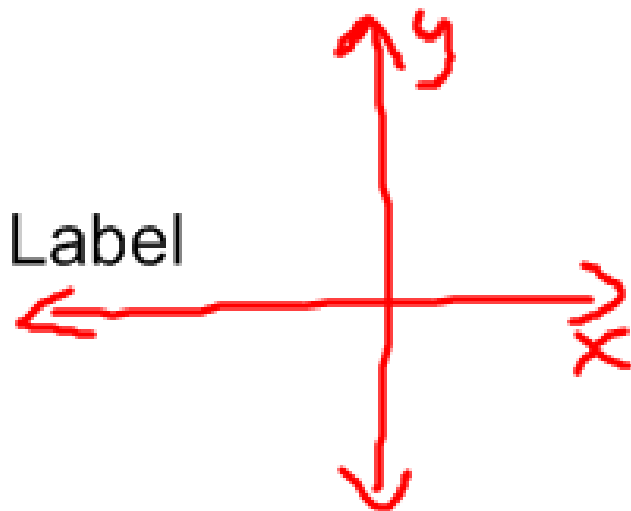


## 4.3 Warm-Up:

Draw a picture of a coordinate plane. Label the x- and y-axis.



1. List 4 points that are on the x-axis.

What do these points have in common?

$(1, 0)$ ,  $(-4, 0)$ ,  $(1 \text{ mi.}, 0)$   $y$  is 0 or  $y = 0$

2. List 4 points that are on the y-axis.

What do these points have in common?

$(0, 1)$ ,  $(0, 2)$ ,  $(0, 3)$   
 $x$  is 0 or  $x = 0$ .

How many points do we have to have to make a line?

2 pts

x-intercept -

where the line  
crosses the x-axis

y-intercept -

" "

y-axis

Find the x-intercept and the y-intercept of the graph of  $2x + 7y = 28$ .

x-intercept

$$y = 0$$

$$2x + 7 \cdot 0 = 28$$

$$\frac{2x}{2} + \cancel{0} = \frac{28}{2}$$

$$x = 14$$

y-intercept

$$x = 0$$

$$\cancel{2} \cdot 0 + 7y = 28$$

$$\cancel{7}y = \frac{28}{7}$$

$$y = 4$$

Find the x-intercept and the y-intercept of the graph of  $4x - 2y = 10$ .

y-intercept

$$x = 0$$

$$4 \cdot 0 - 2y = 10$$

$$\cancel{4} - 2y = 10$$

$$\begin{array}{r} -2 \\ -2 \end{array} \quad \begin{array}{r} 10 \\ -10 \end{array}$$
$$y = -5$$

x-intercept

$$y = 0$$

$$4x - 2 \cdot 0 = 10$$

$$\frac{4x}{4} = \frac{10}{4}$$

$$x = 2.5$$

Find the x-intercept and the y-intercept of the graph of  $-3x + 5y = -15$ .

x-intercept

$$y = 0$$

$$-3x + 5 \cdot 0 = -15$$

$$\frac{-3x}{-3} = \frac{-15}{-3}$$

$$x = 5$$

y-intercept

$$x = 0$$

$$-3 \cdot 0 + 5y = -15$$

$$\frac{5y}{5} = \frac{-15}{5}$$

$$y = -3$$

Use intercepts to graph  $x + 2y = 4$ .

$$\frac{x\text{-int}}{y=0}$$

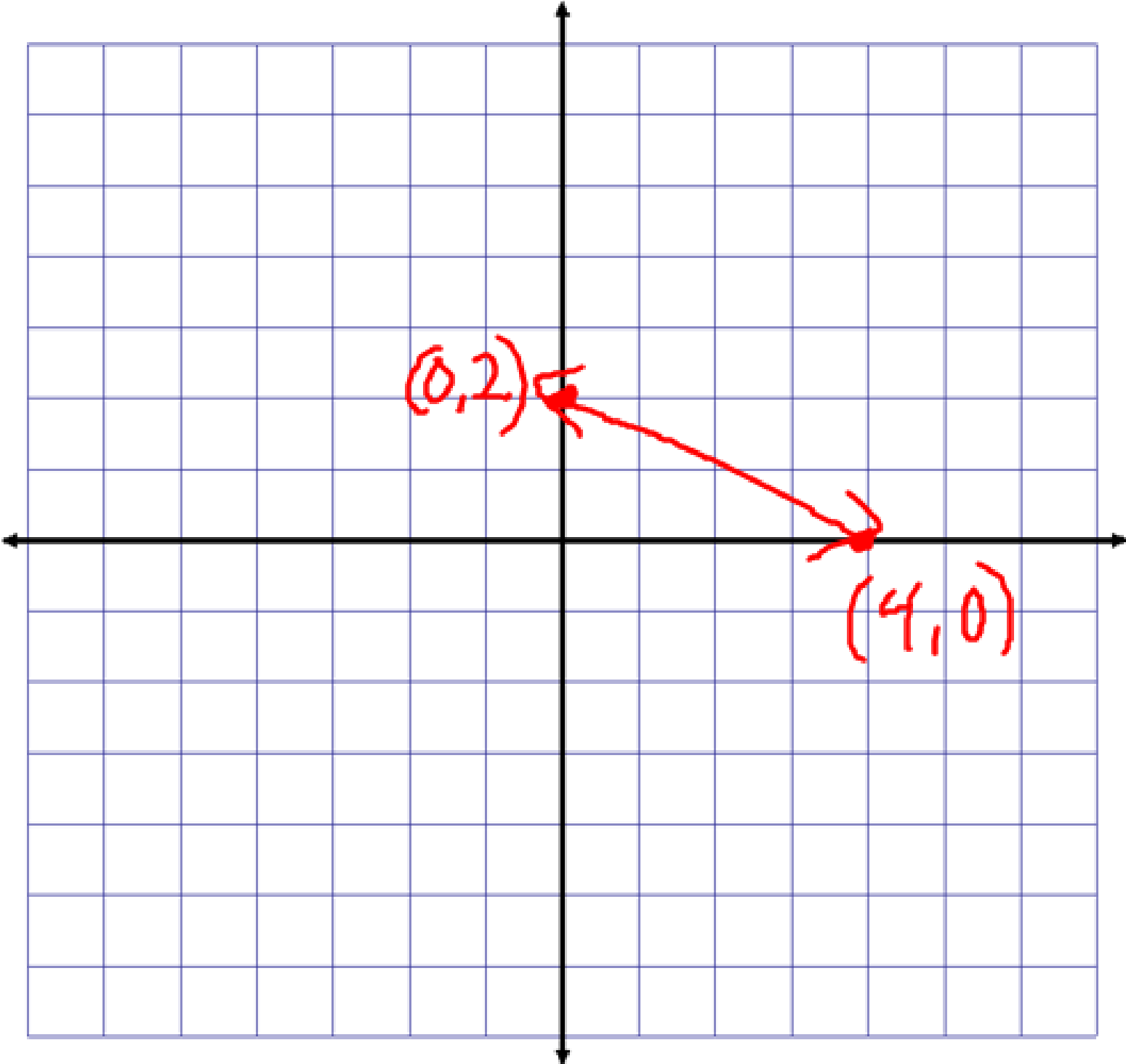
$$x + 2 \cdot 0 = 4$$
$$x = 4$$

$$(4, 0)$$

$$\frac{y\text{-int}}{x=0}$$

$$\cancel{x} + 2y = 4$$
$$2y = 4$$

$$y = 2$$
$$(0, 2)$$



Use intercepts to graph  $6x + 7y = 42$ .

$$\frac{\text{X-intercept}}{y=0}$$

$$6x + 7y = 42$$

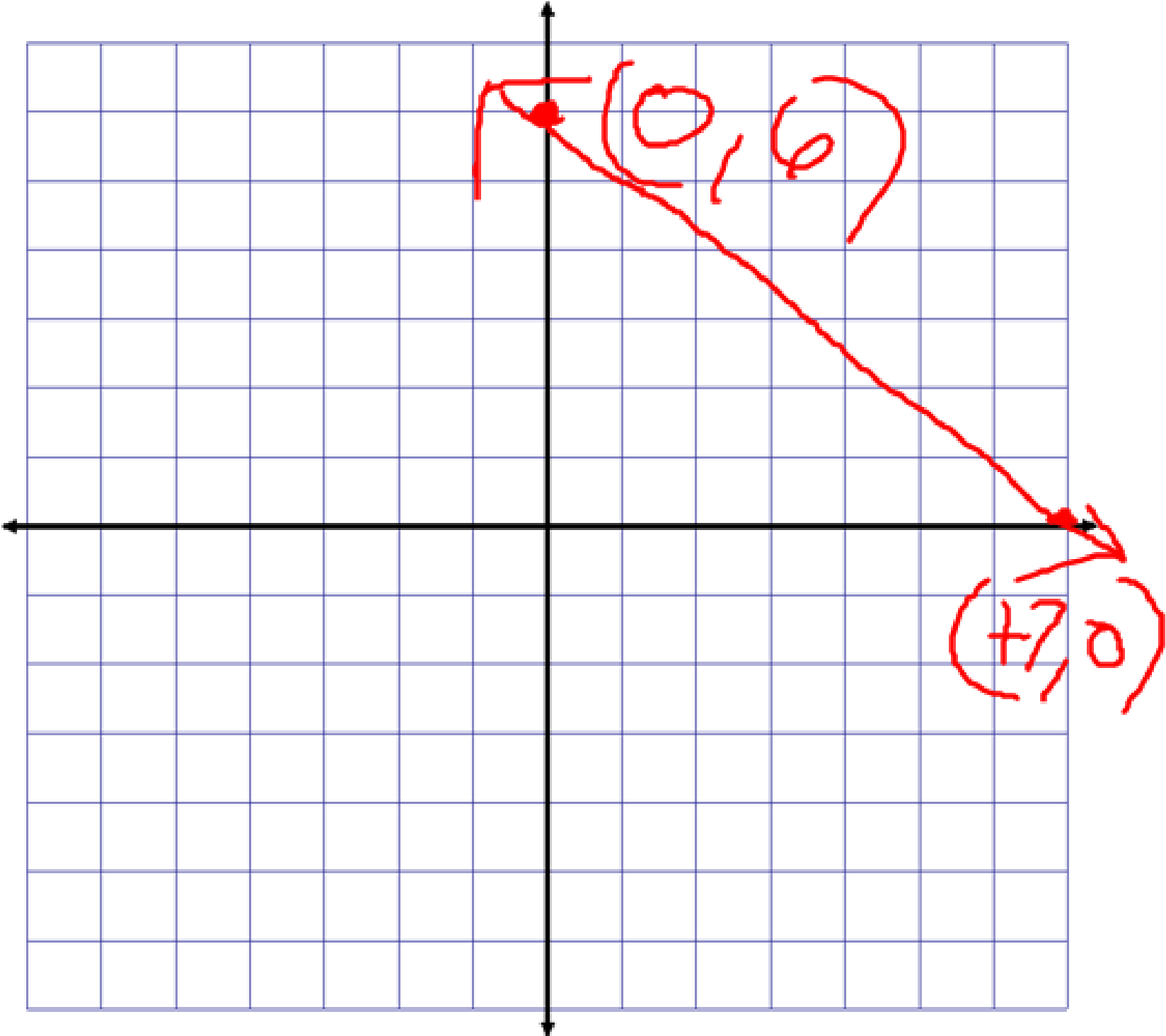
$$\frac{6x}{6} + \frac{7 \cdot 0}{7} = \frac{42}{6}$$

$$x = 7$$

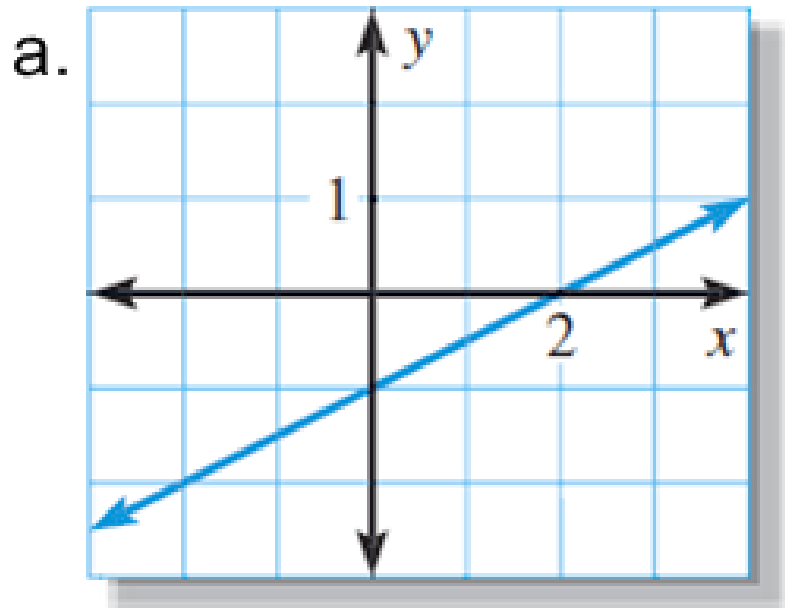
$$\frac{\text{y-intercept}}{x=0}$$

$$\cancel{6 \cdot 0} + \frac{7y}{7} = \frac{42}{7}$$

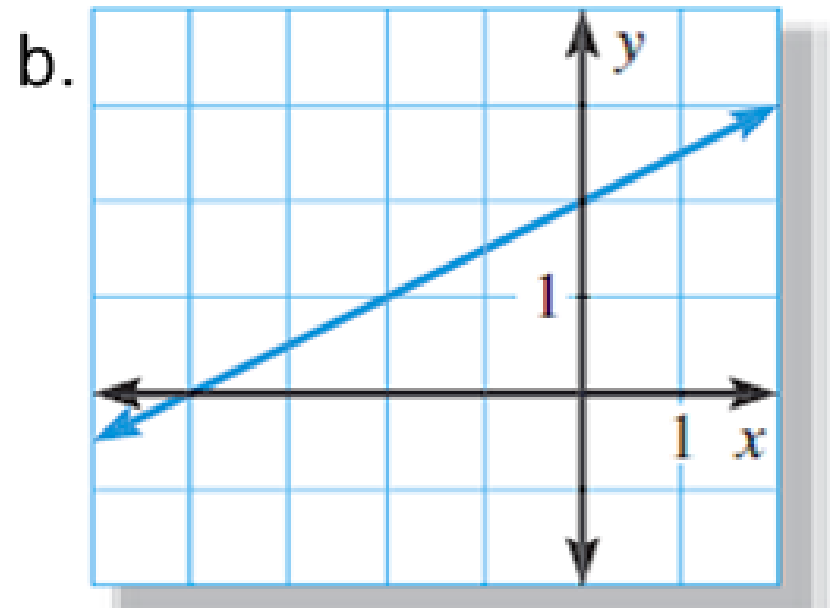
$$y = 6$$



Use the graph to find its intercepts.



$$x = 2$$
$$y = -1$$



$$x = -4$$
$$y = 2$$

You are helping to plan an awards banquet for your school, and you need to rent tables to seat 180 people. Tables come in two sizes. Small tables seat 4 people, and large tables seat 6 people. This situation can be modeled by the equation  $4x + 6y = 180$  where  $x$  is the number of small tables and  $y$  is the number of large tables.

\*Find the intercepts of the graph of the equation.

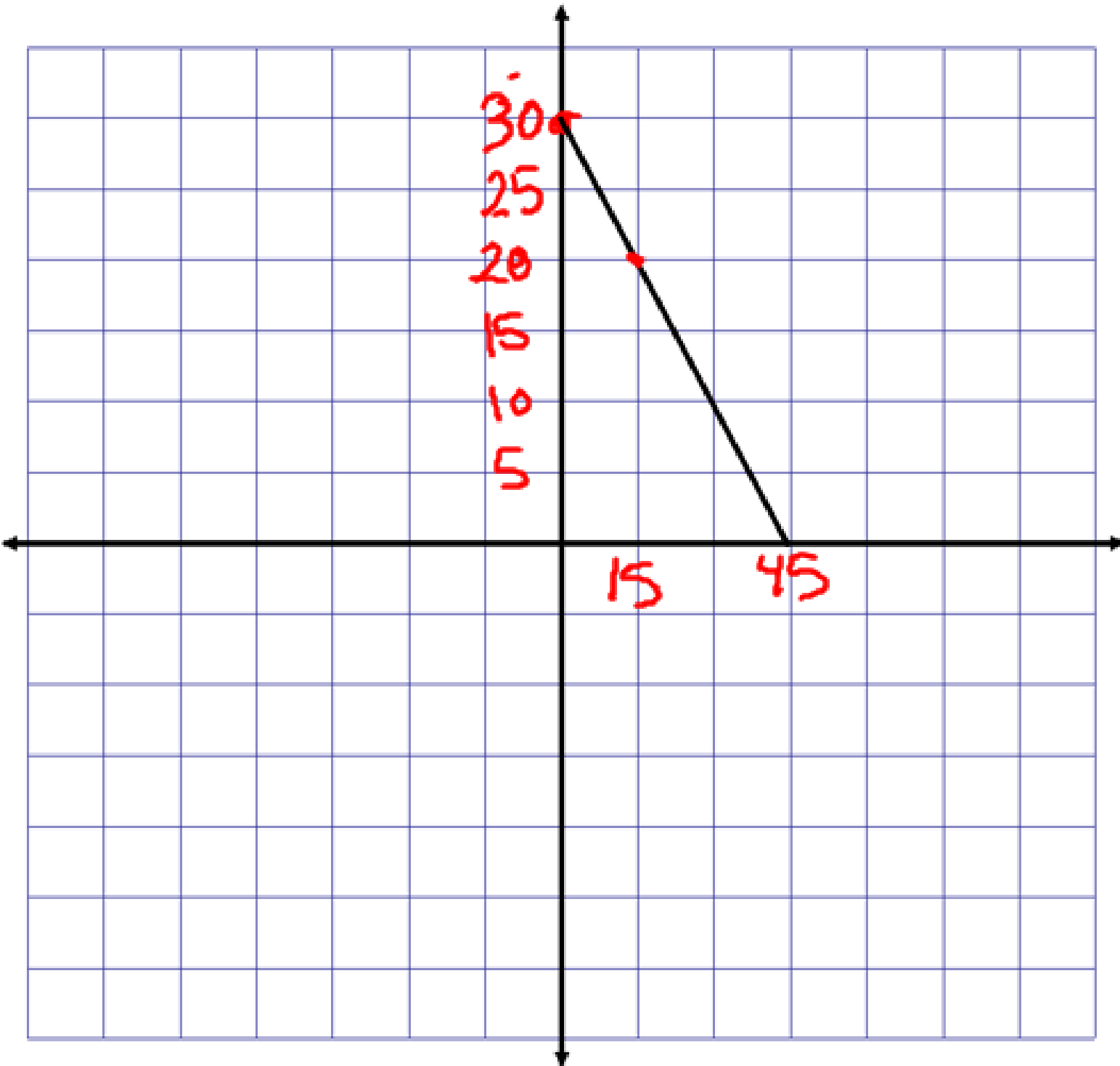
\*Graph the equation.

\*Give 3 possibilities for the number of each size table you could rent.

$x = 45$  small + 0 large

$y = 30$  large  
0 small

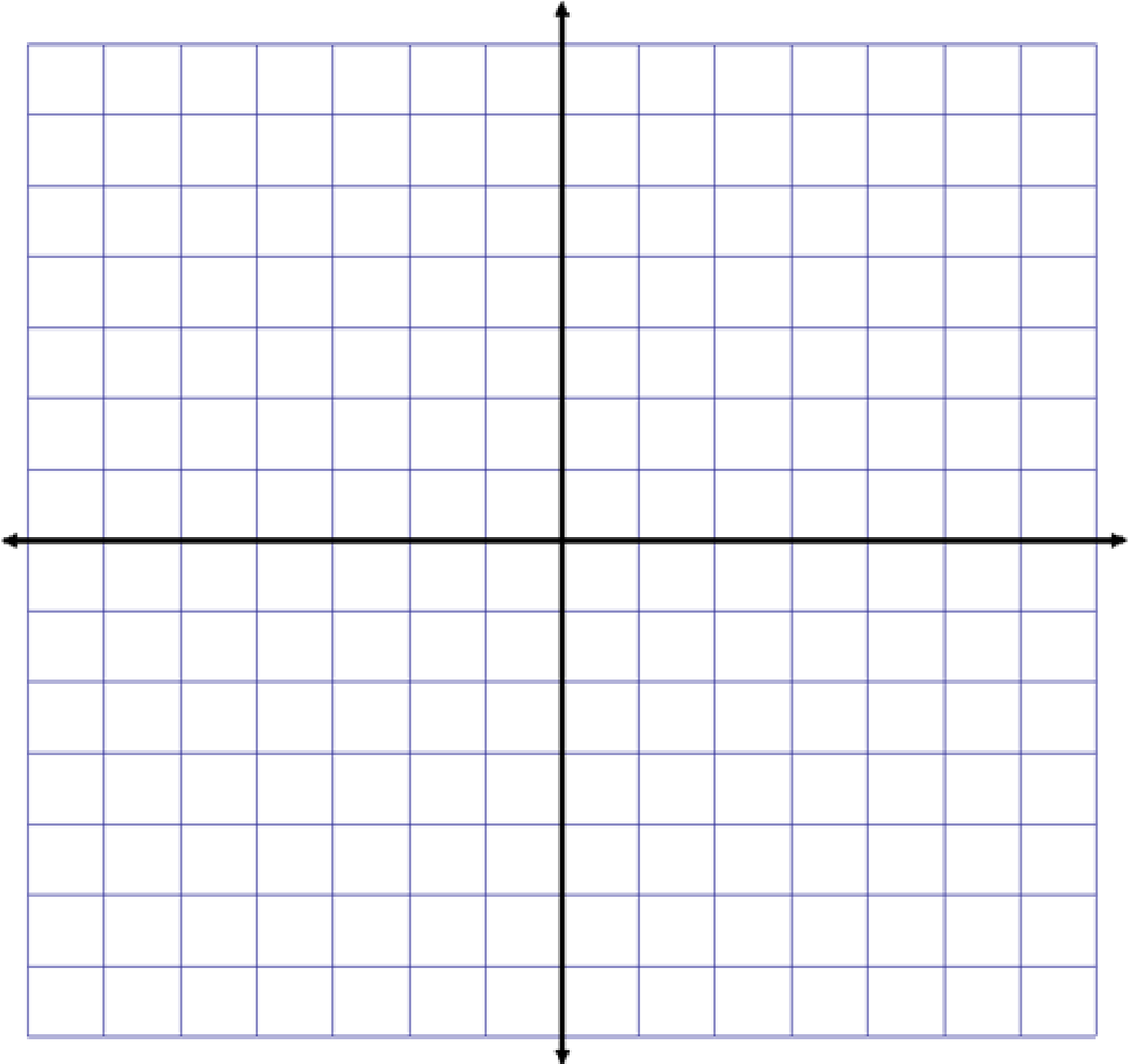
15 small, 20 large



3

You borrow \$90 from your parents. To repay your debt, you give them \$15 per month. Your debt  $d$  (in dollars) is given by the function  $d = 15t - 90$  where  $t$  represents time (in months).

- \*Find the intercepts of the graph of the function and state what they represent.
- \*Graph the function and identify its domain and range.



Homework:

pp 229-230

If you feel you do not yet fully understand, do the following:

#'s 2-10 E, 16-24 E,  
28-30, 32-36 E, 45

OR If you feel you already know this material, do these:

#'s 10, 20, 30, 34, 45

Your work must be neat & correct. If it is not, you need more practice and must do the remainder of the assignment.

Quiz over 4.1-4.3 next time!!