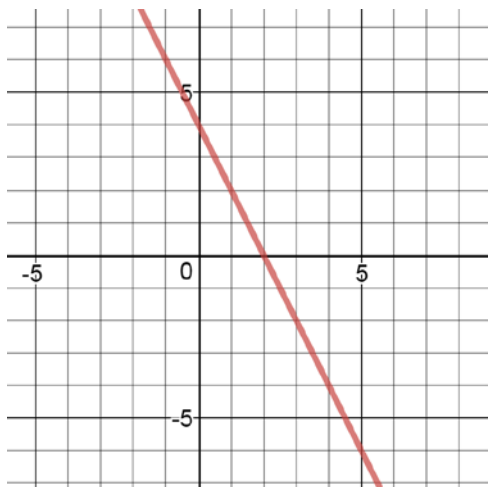


Section 4.7 Standard Form and Graphing Using Intercepts

Identifying Intercepts

1. Identify the x-intercept and the y-intercept for each line below.

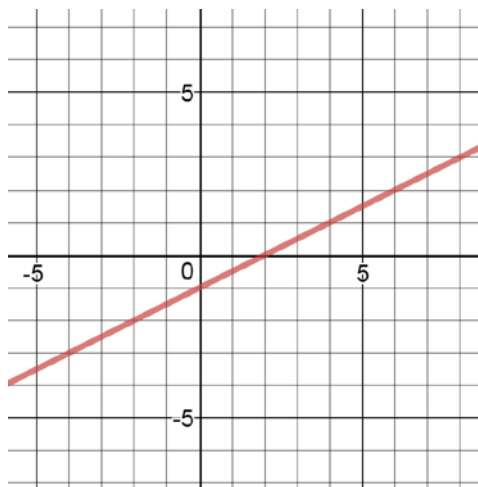
a.



x-intercept:

y-intercept:

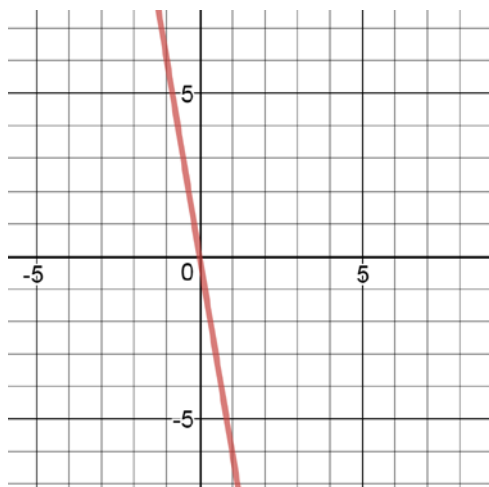
b.



x-intercept:

y-intercept:

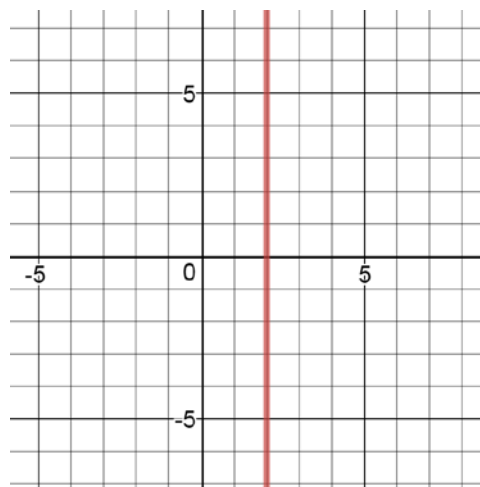
c.



x-intercept:

y-intercept:

d.

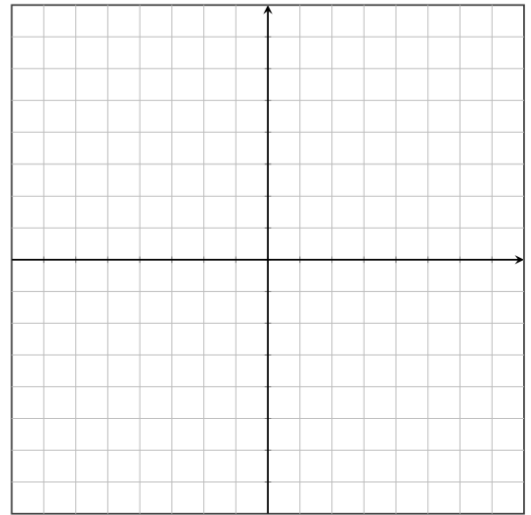


x-intercept:

y-intercept:

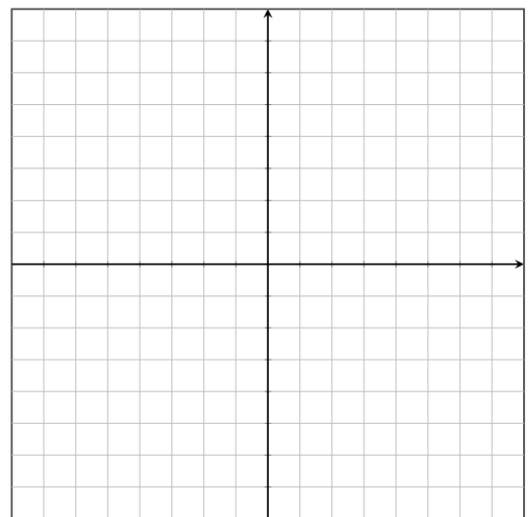
Standard Form of a Line:  $Ax + By = C$

2. Find the x-intercept and y-intercept for the equation  $2x - 4y = 8$ . Then graph the equation.



Rewrite the equation in slope-intercept form and check the graph.

3. Find the x-intercept and y-intercept for the equation  $-x + 3y = 10$ . Then graph the equation.



Rewrite the equation in slope-intercept form and check the graph.

4. Rewrite the line in slope-intercept in standard form.

a.  $y = 2x + 1$

b.  $y = -\frac{2}{3}x - 4$

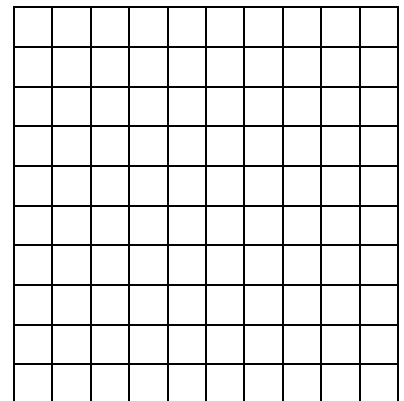
5. You are planning a party and you are going to order pizzas and salads. The pizzas are \$10 each and the salads are \$8 each. Let  $p$  be the number of pizzas you order and let  $s$  be the number of salads you order. If you have a budget of \$80, what combinations of pizzas and salads can you buy?

a. Write an equation in standard form to model this situation.

b. Find the  $p$ -intercept. What does this represent?

c. Find the  $s$ -intercept. What does it represent?

d. Graph this equation using the intercepts. Use  $p$  on the horizontal axis and  $s$  on the vertical axis. Label the axes and scale.



e. Solve your equation for  $s$  to put it in slope-intercept form. Use this to state and interpret the slope for this equation.

More Practice

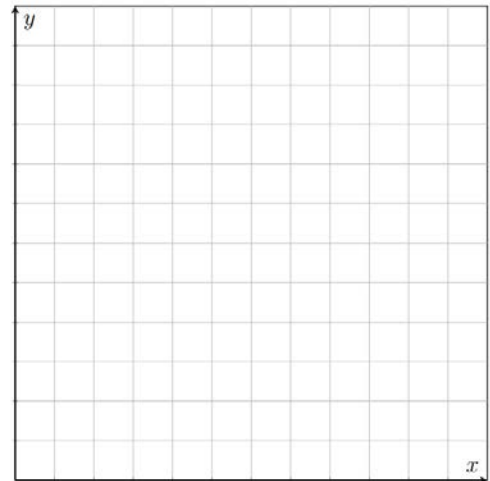
6. A couple is planning their wedding. They want the total cost of catering ( $x$ , in dollars) and renting the venue ( $y$ , in dollars) to be \$4,000. They plan to hit this limit. This can be modeled by the equation  $x + y = 4000$ .

a. Find the  $x$ -intercept. What does this represent?

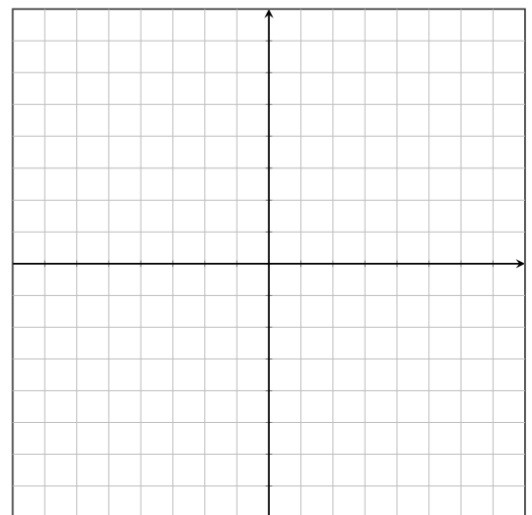
b. Find the  $y$ -intercept. What does it represent?

c. Graph this equation using the intercepts. Label the axes and scale.

d. Solve  $x + y = 4000$  to put it in slope-intercept form. Use this to state and interpret the slope for this equation.



7. Find the  $x$ -intercept and  $y$ -intercept for the equation  $6x - 2y = 12$ . Then graph the equation.



Rewrite the equation in slope-intercept form and check the graph.