

# 5.2 Graph Using Intercepts

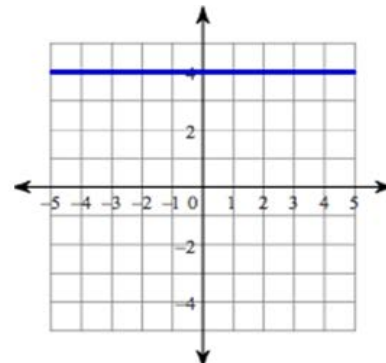
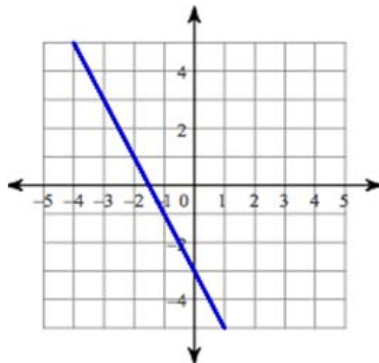
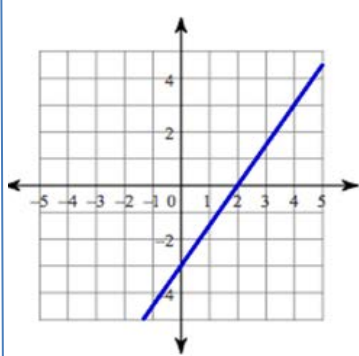
## ALGEBRA

Write your questions here!



x-intercept:

y-intercept:



x-intercept =

x-intercept =

x-intercept =

y-intercept =

y-intercept =

y-intercept =

x-intercept =

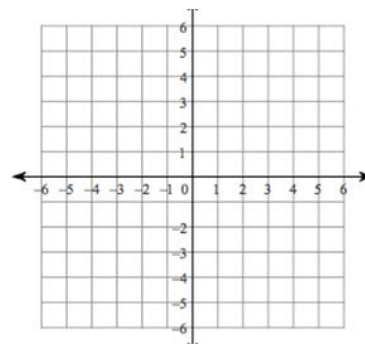
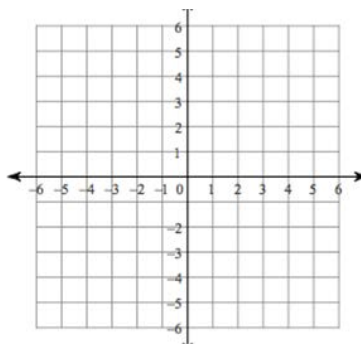
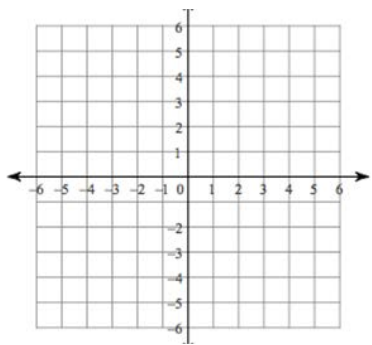
x-intercept =

x-intercept =

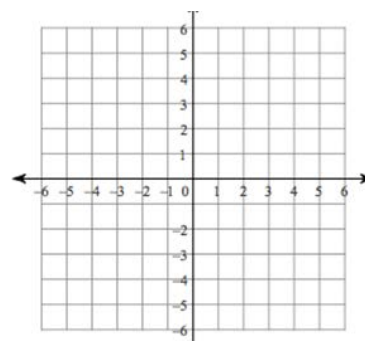
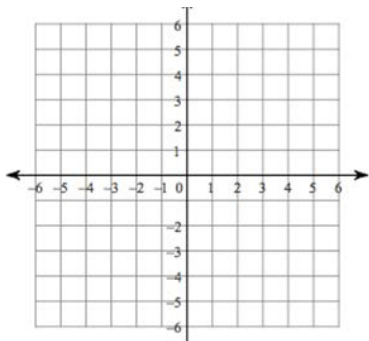
y-intercept =

y-intercept =

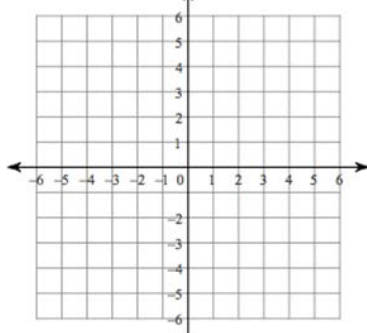
y-intercept =



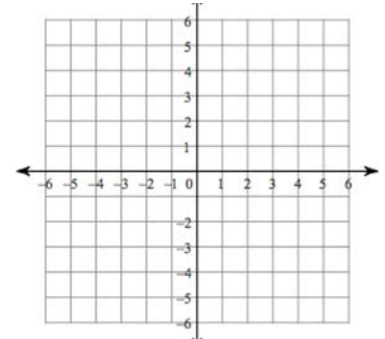
## STANDARD FORM



Try it!



Is the point  $(-5, 10)$  a solution?



The graph shows the number of friends Mr. Brust has on Facebook over time.

What is the  $y$ -intercept?

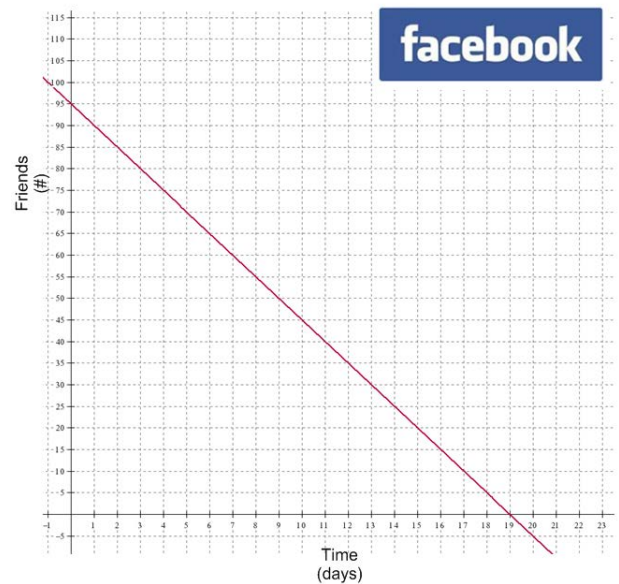
What does the  $y$ -intercept mean?

What is the  $x$ -intercept?

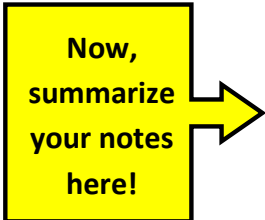
What does the  $x$ -intercept mean?

Describe the rate of change.

Mr. Brust Facebook Friends

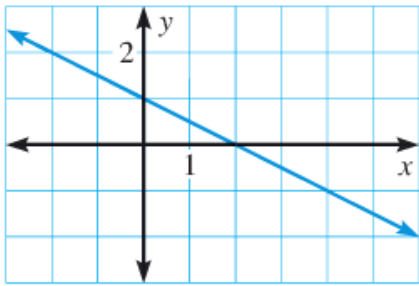


**SUMMARY:**



### Identify the $x$ -intercept and the $y$ -intercept of the graph

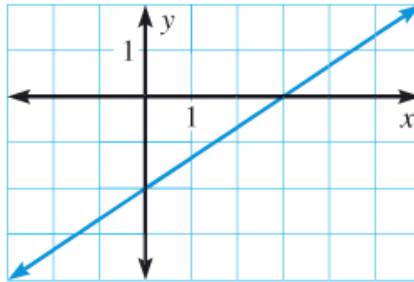
1.



$x$ -intercept =

$y$ -intercept =

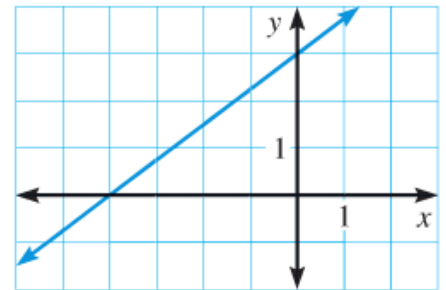
2.



$x$ -intercept =

$y$ -intercept =

3.

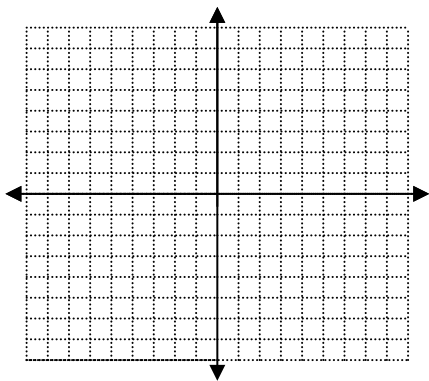


$x$ -intercept =

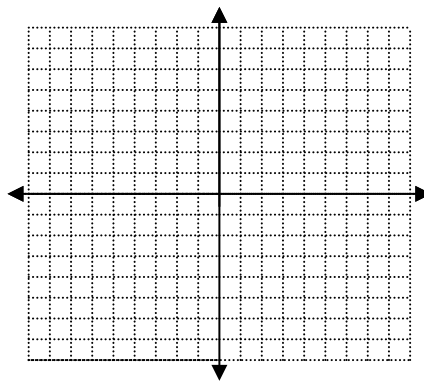
$y$ -intercept =

### Draw the line that has the given intercepts

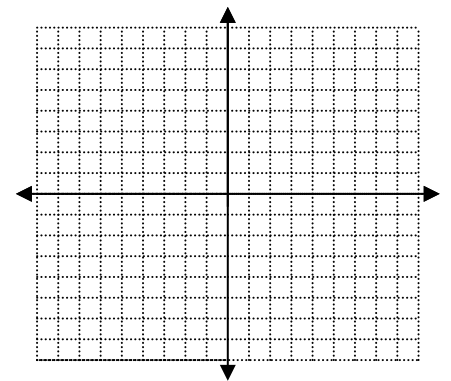
4.  $x$ -intercepts: 3  
 $y$ -intercepts: 5



5.  $x$ -intercepts: -5  
 $y$ -intercepts: 6



6.  $x$ -intercepts: -2  
 $y$ -intercepts: none



### Find the $x$ -intercept and the $y$ -intercept of the graph of the equation.

7.  $3x - 3y = 9$

$x$ -intercept =

$y$ -intercept =

8.  $4x + y = 4$

$x$ -intercept =

$y$ -intercept =

9.  $2x - 8y = 24$

$x$ -intercept =

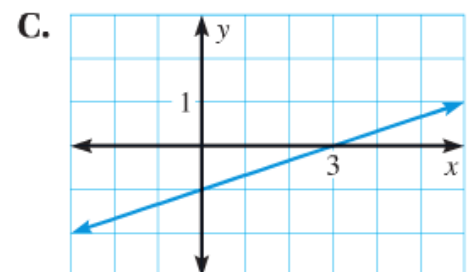
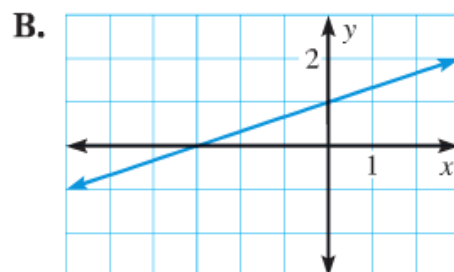
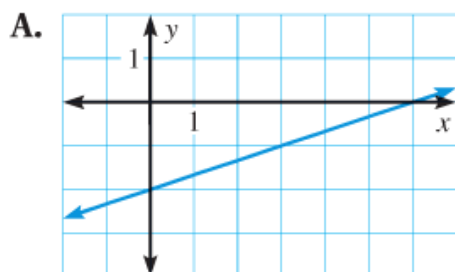
$y$ -intercept =

### Match the equation with its graph.

10.  $2x - 6y = 6$

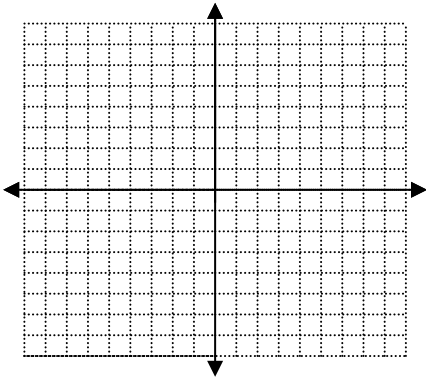
11.  $2x - 6y = -6$

12.  $2x - 6y = 12$



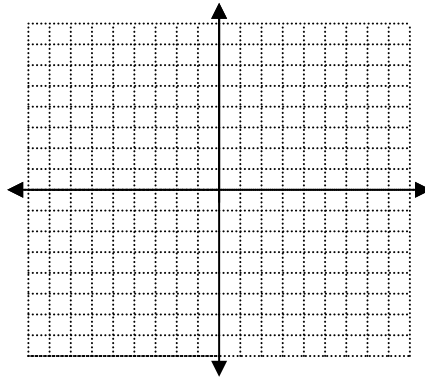
**Graph the equation. Label the points where the line crosses the axes.**

13.  $3x - 3y = 9$



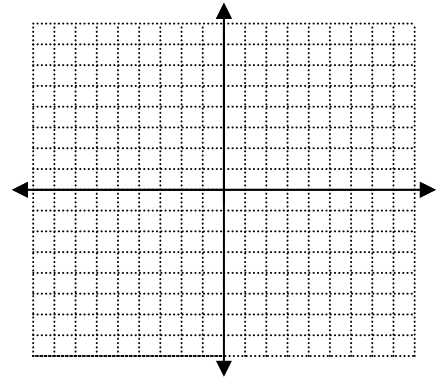
Is the point (12, 9) on the line?  
SHOW WORK!

14.  $4y = 12$



Is the point (-8, 34) a solution?  
SHOW WORK!

15.  $4x - 8y = 24$



Is the point (10, -1/2) on the line?  
SHOW WORK!

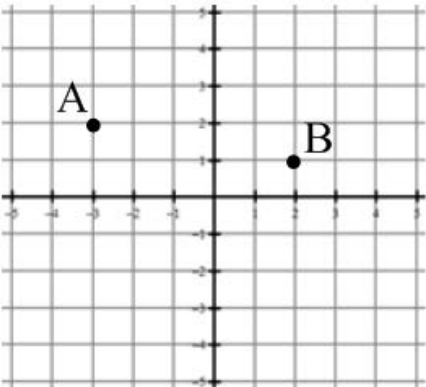
**SKILLZ REVIEW**

**GRAPH**

1. Describe how to move from point A to point B.

\_\_\_\_\_ units in the y direction (rise)

\_\_\_\_\_ units in the x direction (run)



2. Describe how to move from point C(0,3) to point D(2, -3).

**SIMPLIFY**

3.  $7(2x - 5) + 5$

4.  $4x - 5(3x - 1)$

**SOLVE**

5.  $7 - \frac{x}{4} = 17$

6.  $3x + 8 = 5x + 6$

## 5.2 Graph Using Intercepts

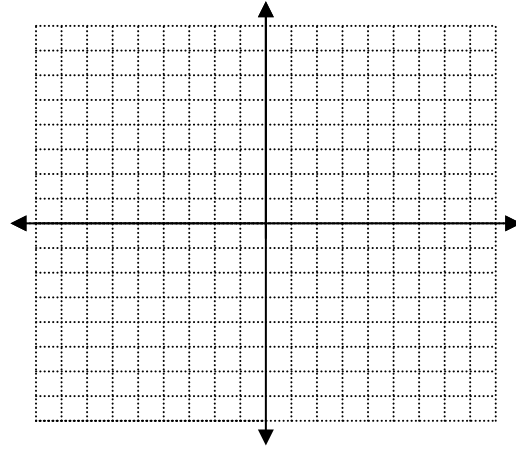
## APPLICATION

Find the  $x$ -intercept and the  $y$ -intercept of the graph of the equation. Then graph it!

1.  $3x - 5y = 18$

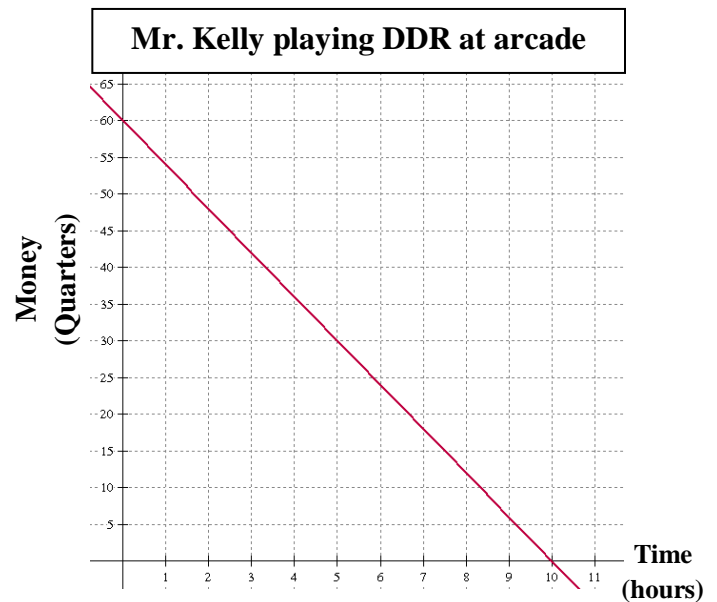
$x$ -intercept =

$y$ -intercept =



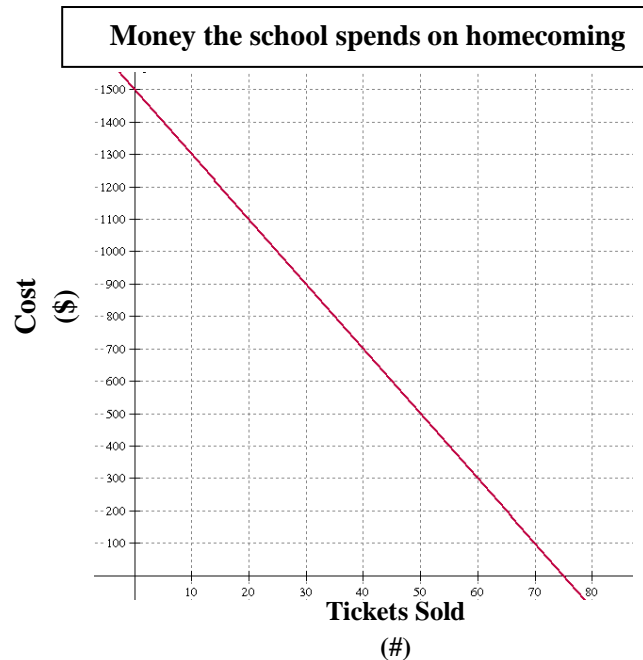
Use the graph to answer the following:

2. What does the  $x$ -axis represent?
3. What does the  $y$ -axis represent?
4. What is the  $y$ -intercept?
5. What does the  $y$ -intercept mean in this situation?
6. What is the  $x$ -intercept?
7. What does the  $x$ -intercept mean in this situation?



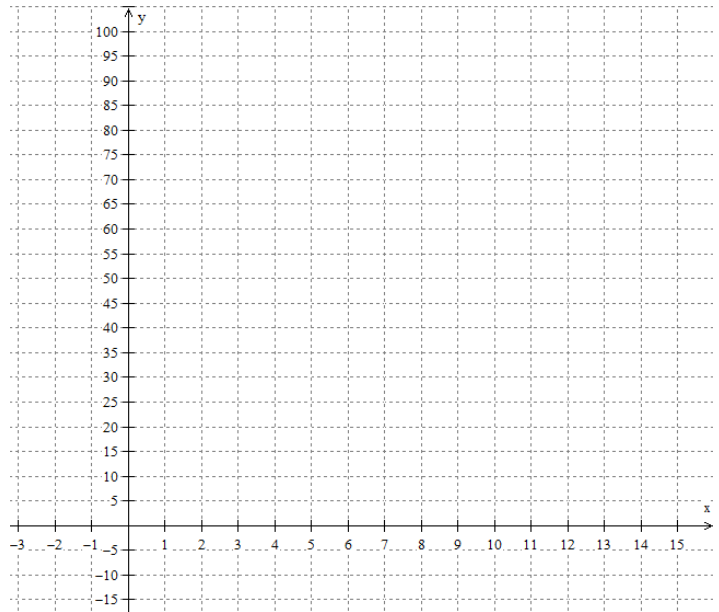
Use the graph to answer the following:

8. What does the  $x$ -axis represent?
9. What does the  $y$ -axis represent?
10. What is the  $y$ -intercept?
11. What does the  $y$ -intercept mean in this situation?
12. What is the  $x$ -intercept?
13. What does the  $x$ -intercept mean in this situation?



14. Mr. Brust has 90 Gummy AlgeBears and wants to eat them all in one sitting. After 2 minutes of continuous eating Mr. Brust has 75 Gummy AlgeBears left. After 12 minutes Mr. Brust has eaten all of the Gummy AlgeBears.

- What is the  $x$ -intercept?
- What is the  $y$ -intercept?
- Draw the line with the given intercepts. Label the  $x$  and  $y$  axes (include units!)
- Describe the rate of change.



**Using two variables, write an equation to represent the following.**

- The sum of two numbers is 50.
- The total number of boys and girls is 428.
- Sarah's age increased by twice Bob's age is 42.
- A movie theater collected \$290 selling adult tickets for \$4 and children tickets for \$2.
- Kobe made some 3-pointers and some 2-pointers scoring 51 points.
- Mr. Brust has a pocket full of quarters and dimes. He has \$4.25 worth of coinage.

**Use the table to determine the  $x$  and  $y$  intercepts.**

21.

x	y
-2	24
-1	21
0	18
1	15
2	12
3	9
4	6
5	3
6	0
7	-3

$x$ -intercept =

$y$ -intercept =

22.

x	y
-4	-40
-2	-32
0	-24
2	-16
4	-8
6	0
8	8
10	16

$x$ -intercept =

$y$ -intercept =