

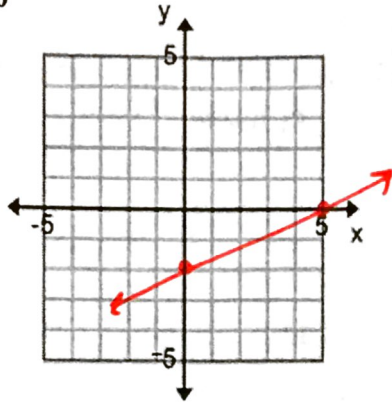
## HW 2-6: Graph Using Intercepts

Find the x and y intercept of each equation. Then use them to graph the equation.

1.  $2x - 5y = 10$

x-int:  $(5, 0)$

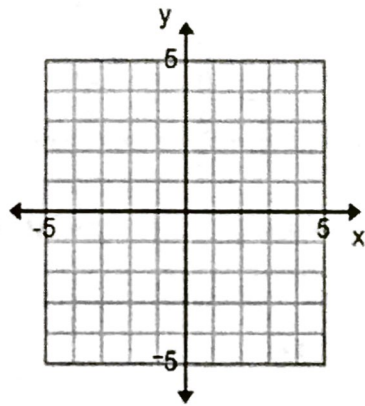
y-int:  $(0, -2)$



2.  $x - y = -3$

x-int:  $(, )$

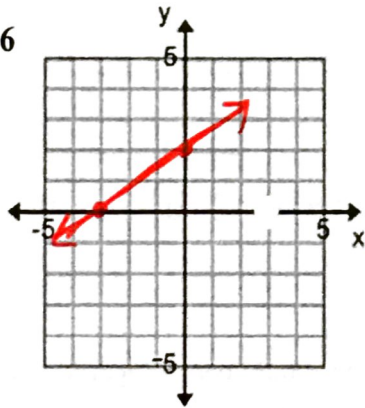
y-int:  $(, )$



3.  $-2x + 3y = 6$

x-int:  $(-3, 0)$

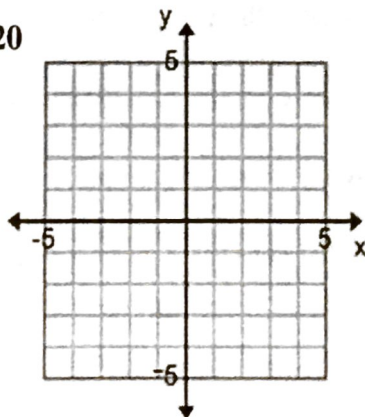
y-int:  $(0, 2)$



4.  $8x + 4y = 20$

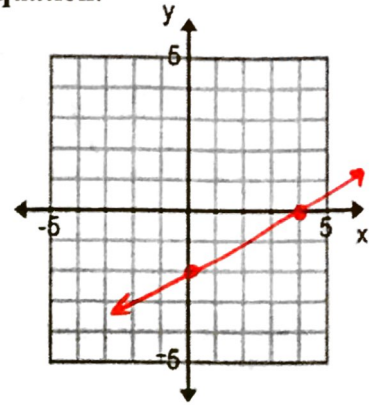
x-int:  $(, )$

y-int:  $(, )$



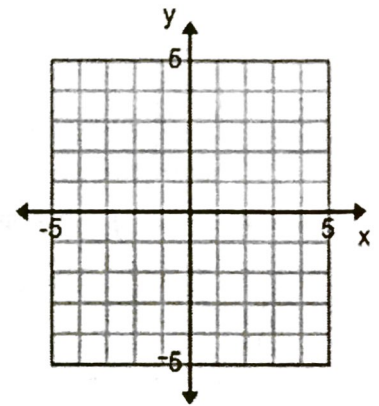
5.  $2y - x = -4$

x	y
4	0
0	-2



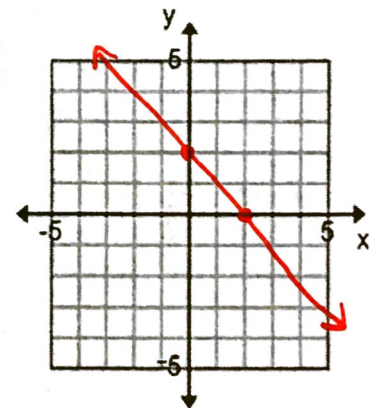
6.  $3x - y = 3$

x	y



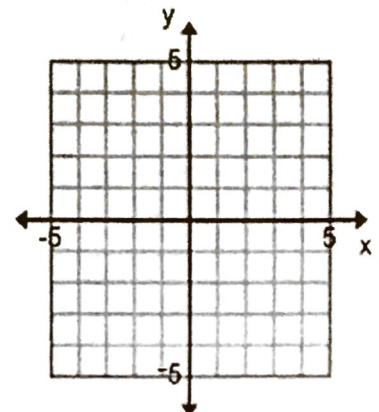
7.  $x + y = 2$

x	y
0	2
2	0



8.  $5x - 4y = 20$

x	y



9. The cafeteria is selling churros and pretzels. Churros are \$2 and pretzels are \$4. They need to make \$100 in order to meet their goal. This can be illustrated by the equation  $2x + 4y = 100$ , where  $x$  = the number of churros, and  $y$  = the number of pretzels. Answer the following.

a. What is the  $x$  intercept?

$(50, 0)$

c. What is the  $y$  intercept?

b. What does the  $x$  intercept mean for this equation?

You can sell 50 churros & NO pretzels & make \$100.

d. What does the  $y$  intercept mean for this equation?

Find the  $x$  and  $y$  intercepts using the table.

10.

$x$	$y$
4	3
6	4
0	1
-2	0
-4	-1

$x$ -int: ( , )  $y$ -int: ( , )

12.

$x$	$y$
-2	-4
-1	-3
0	-2
2	0
4	2

$x$ -int: ( , )  $y$ -int: ( , )

11.

$x$	$y$
-2	-5
-1	-2
0	1
1	4
-1/2	0

$x$ -int:  $(-\frac{1}{2}, 0)$   $y$ -int:  $(0, 1)$

13.

$x$	$y$
-4	-8
-1	-2
0	0
1	2
3	6

$x$ -int:  $(0, 0)$   $y$ -int:  $(0, 0)$

14. The following table suggests how many hours you should nap compared to how many hours of sleep you get at night. Answer the following questions.

Hours of Sleep at Night ( $x$ )	Hours of Napping ( $y$ )
0	12
2	9
4	6
6	3
8	0

a. What is the  $x$  intercept?

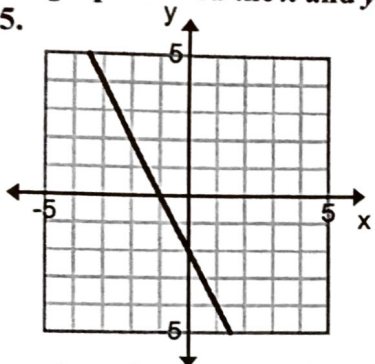
b. What does the  $x$  intercept mean in this situation?

c. What is the  $y$  intercept?

d. What does the  $y$  intercept mean in this situation?

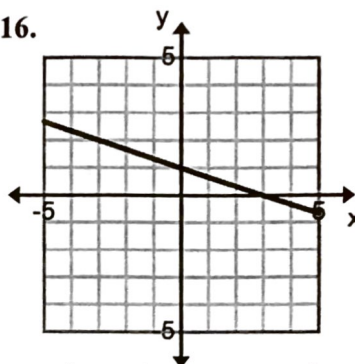
Use the graph to find the  $x$  and  $y$  intercepts if they exist.

15.



$x$ -int:  $(-1, 0)$   $y$ -int:  $(0, -2)$

16.



$x$ -int:  $( , )$   $y$ -int:  $( , )$

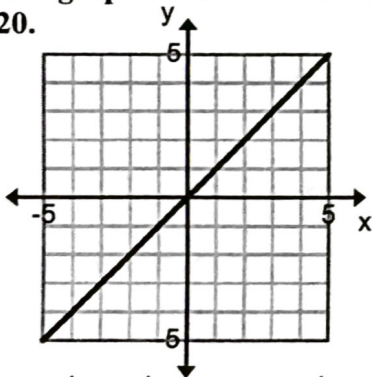
17. In your own words, describe how to find the  $x$  and  $y$  intercepts using a table.

18. In your own words describe how to find the  $x$  and  $y$  intercepts by looking at a graph.

19. In your own words describe how to find the  $x$  and  $y$  intercepts using an equation.

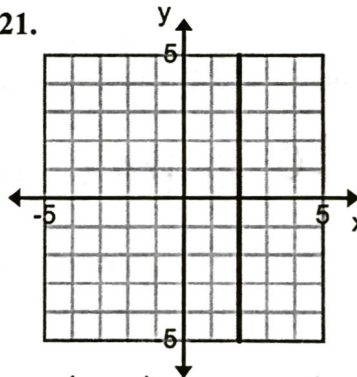
Use the graph to find the  $x$  and  $y$  intercepts if they exist.

20.



$x$ -int:  $( , )$   $y$ -int:  $( , )$

21.



$x$ -int:  $(2, 0)$   $y$ -int:  $( , )$

NONE!

22. What type of line does not have an  $x$  intercept?

23. What type of line does not have a  $y$  intercept?

vertical line

24. When will a line have the same  $x$  and  $y$  intercept?

Use the graph at the right to answer questions #25-31.

A company sells calculators for \$35. They sell a graphing program for \$70. They need to make \$2,100 from their sales. The graph on the right represents this.

( $x$  = the number of calculators sold)  
( $y$  = the number of graphing programs sold)

25. What is the  $x$  intercept?

$(60, 0)$

26. What does the  $x$  intercept mean in this situation?

27. What is the  $y$  intercept?

$(0, 30)$

28. What does the  $y$  intercept mean in this situation?



29. If the company sold 40 calculators, how many graphing programs do they need to sell?

10 graphing programs

30. If the company sold 25 graphing programs, how many calculators do they need to sell?

31. The company sells 30 calculators and 10 graphing programs. How many more of each might they sell in order to make exactly \$2,100? There may be more than one right answer.