

3.2 Graphing Linear Equations

Solutions

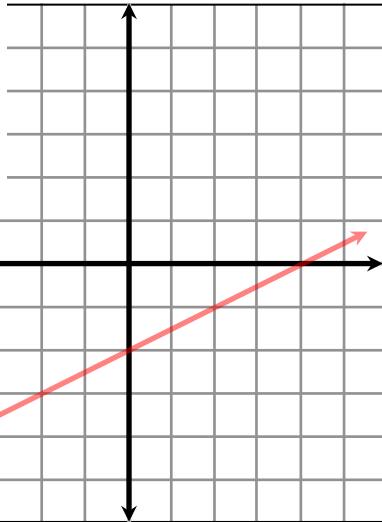
Determine if the ordered pair is a solution of the equation.	
<p>1. $2x + 3y = 5$</p> <p>(a) (1, 1) $2 \cdot 1 + 3 \cdot 1 = 5 ?$ $2 + 3 = 5 ?$ $5 = 5 ?$ Yes.</p> <p>(b) (4, -1) $2 \cdot 4 + 3 \cdot -1 = 5 ?$ $8 - 3 = 5 ?$ $5 = 5 ?$ Yes.</p> <p>(c) (-1, 2) $2 \cdot -1 + 3 \cdot 2 = 5 ?$ $-2 + 6 = 5 ?$ $4 = 5 ?$ No.</p>	<p>2. $-3x + 4y = -5$</p> <p>(a) (1, 2)</p> <p>(b) (3, 1)</p> <p>(c) (0, -1.25)</p>
Complete the ordered pairs so they will be solutions of the given equation.	
<p>3. $y = 3x - 5$</p> <p>(a) (1, <u>-2</u>) $y = 3 \cdot 1 - 5$ $y = 3 - 5$ $y = -2$</p> <p>(b) (-2, <u>-11</u>) $y = 3 \cdot -2 - 5$ $y = -6 - 5$ $y = -11$</p> <p>(c) (<u>5</u>, 10) $10 = 3x - 5$ $\quad \quad \quad +5 \quad \quad +5$ $15 = 3x$ $\frac{15}{3} = \frac{3x}{3}$ $5 = x$</p>	<p>4. $y = -4x + 1$</p> <p>(a) (2, _____)</p> <p>(b) (-3, _____)</p> <p>(c) (_____, -3)</p>
Answers: 1. (a) yes, (b) yes, (c) no; 3. (a) -2, (b) -11, (c) 5;	

Complete a table of values for each equation and graph the equations.

5.

$$y = \frac{1}{2}x - 2$$

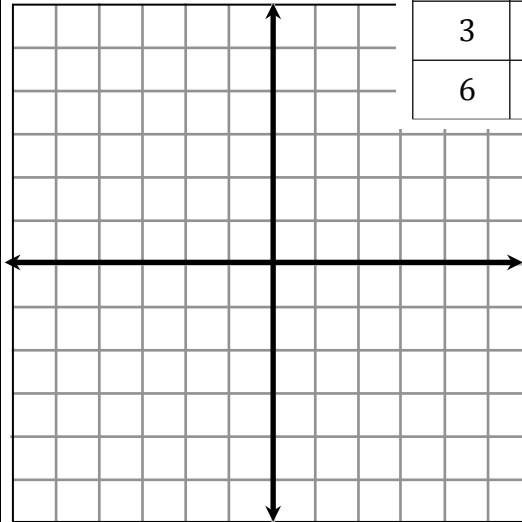
x	y
-4	-4
-2	-3
0	-2
2	-1
4	0



6.

$$y = -\frac{2}{3}x + 1$$

x	y
-6	
-3	
0	
3	
6	



7.

$$y = 3x$$

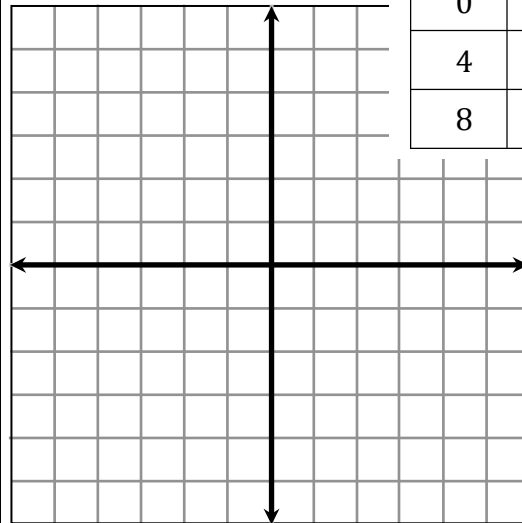
x	y
-2	-6
-1	-3
0	0
1	3
2	6



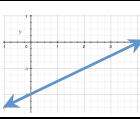
8.

$$y = -\frac{3}{4}x$$

x	y
-8	
-4	
0	
4	
8	



Answers: 5.



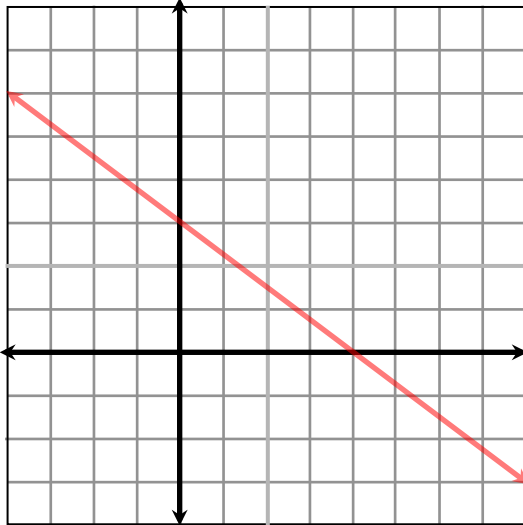
; 7.



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

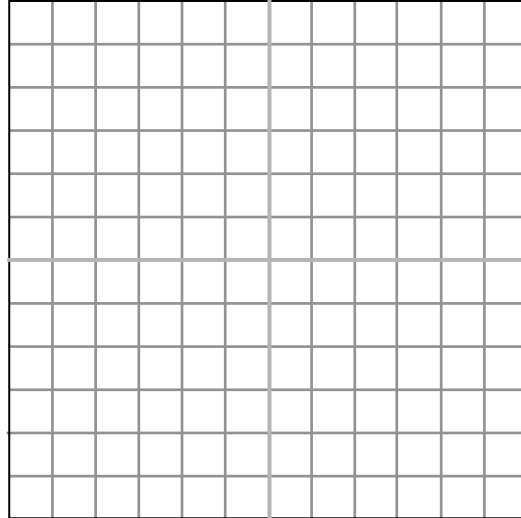
9. $3x + 4y = 12$

	x	y
x -intercept	4	0
y -intercept	0	3



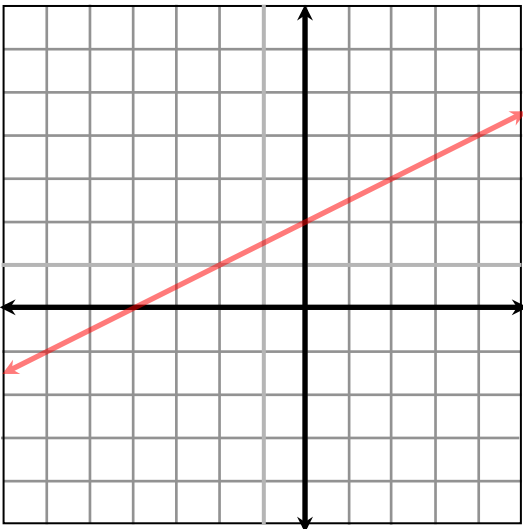
10. $5x - y = 10$

	x	y
x -intercept		0
y -intercept	0	



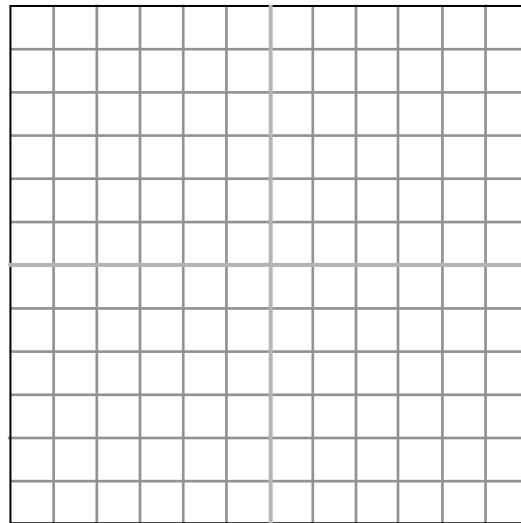
11. $-2x + 4y = 8$

	x	y
x -intercept	-4	0
y -intercept	0	2

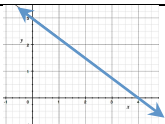


12. $-4x + 10y = 20$

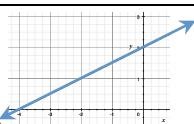
	x	y
x -intercept		0
y -intercept	0	



Answers: 9.

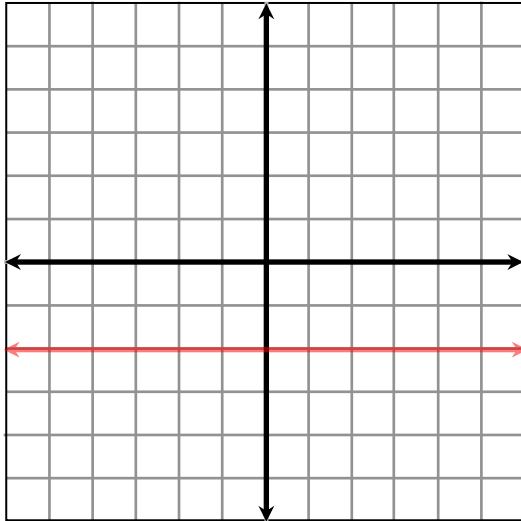


11.

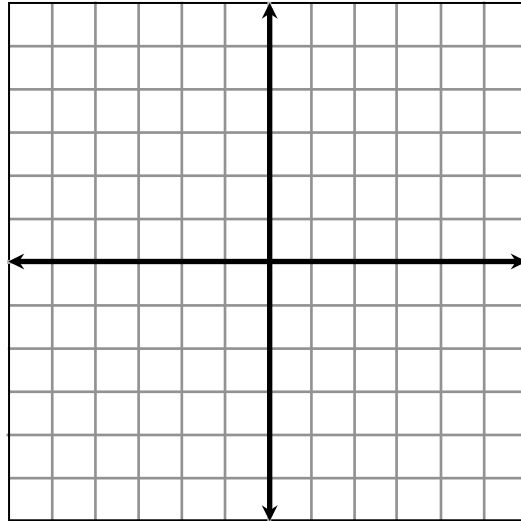


Graph by any method.

13. $y = -2$

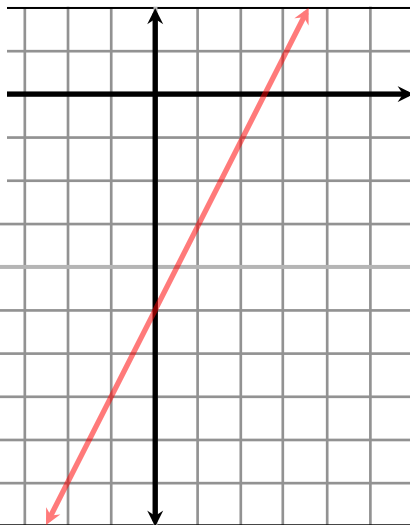


14. $x = 1$

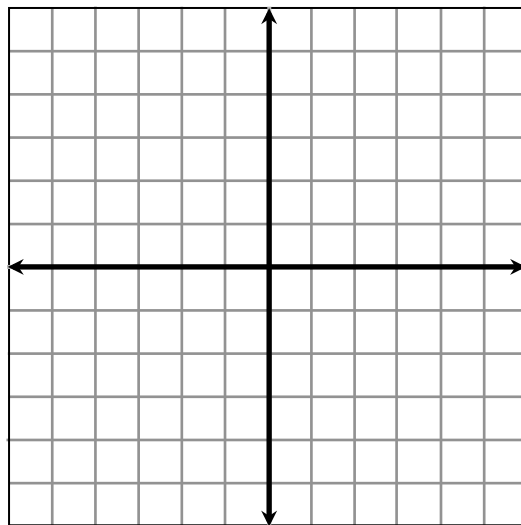


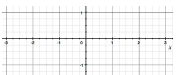
15. $2x - y = 5$
 $\frac{-2x}{-2x} \frac{-2x}{-2x}$
 $-y = -2x + 5$
 $y = 2x - 5$

x	y
-2	-9
-1	-7
0	-5
1	-3
2	-1



16. $x + 2y = 4$



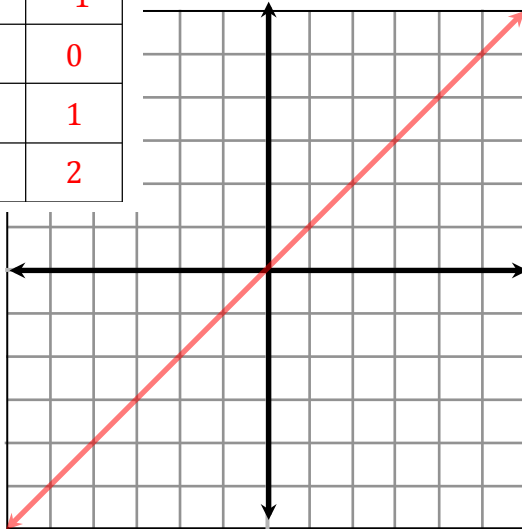
Answers: 13.  ; 15. 

Graph by any method.

17.

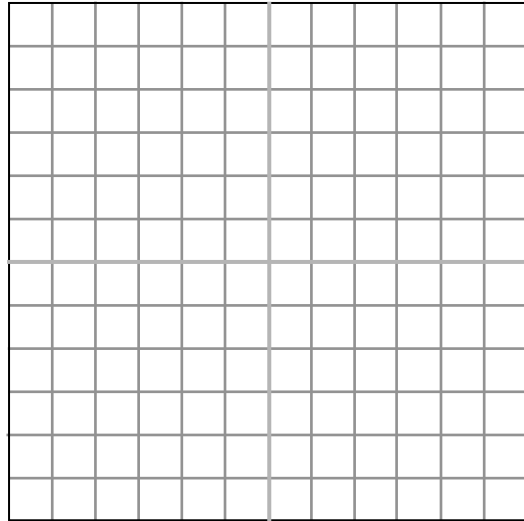
$$x = y$$

x	y
-2	-2
-1	-1
0	0
1	1
2	2



18.

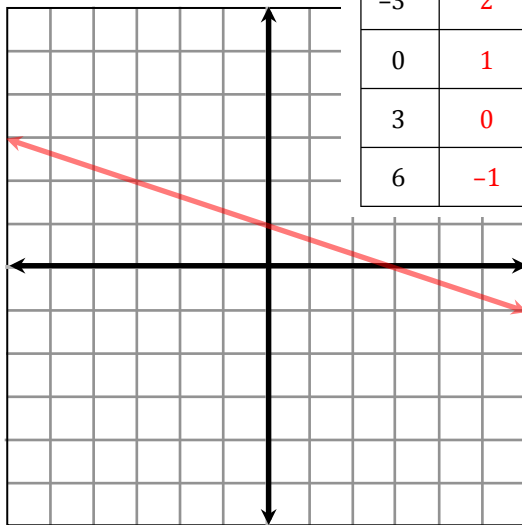
$$x + y = 1$$



19.

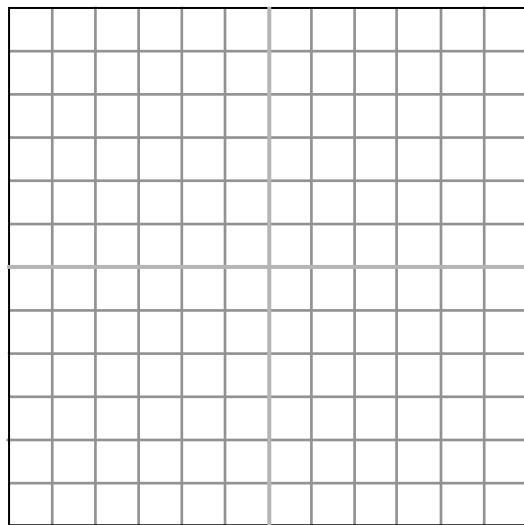
$$y = -\frac{1}{3}x + 1$$

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

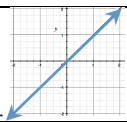


20.

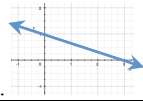
$$y = \frac{1}{2}x - 3$$



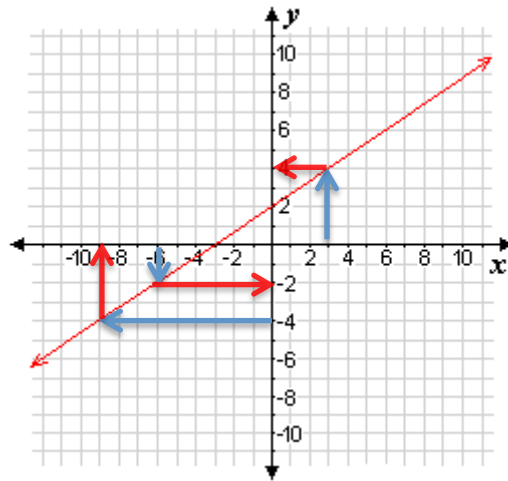
Answers: 17.



; 19.



Use the graph to find the requested x or y value.



21. If $x = 3$, find y .

$$y = 4$$

22. If $x = 0$, find y .

23. If $x = -6$, find y .

$$y = -2$$

24. If $x = -3$, find y .

25. If $y = -4$, find x .

$$x = -9$$

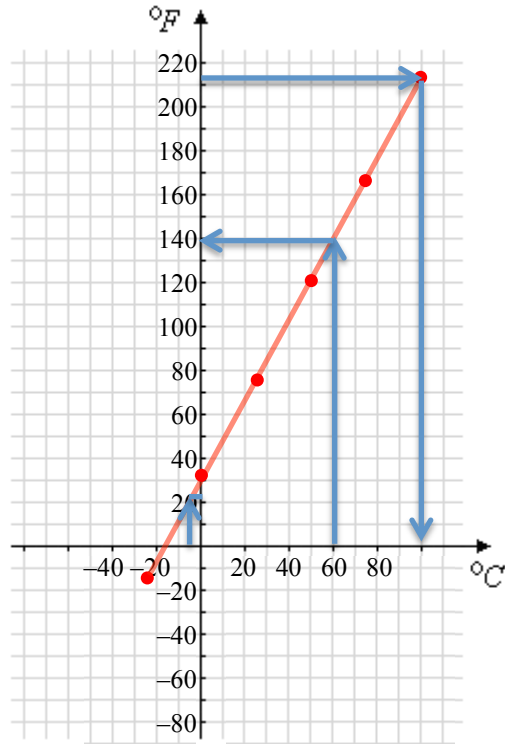
26. If $y = 0$, find x .

Answers: 21. 4; 23. -2; 25. -9

Using the Celsius to Fahrenheit conversion formula given below, fill in the table by converting each Celsius temperature to Fahrenheit. Then plot the values on the coordinate plane provided.

$$F = \frac{9}{5}C + 32$$

C	F
-25	-13
0	32
25	77
50	122
75	167
100	212



Use the graph to convert each given temperature from Fahrenheit to Celsius or Celsius to Fahrenheit.

27. 60°C

= 140°F

28. 10°C

29. 212°F

= 100°C

30. 41°F

31. -5°C

= 23°F

32. -22°F

Answers: 27. 140°F ; 29. 100°C ; 31. 23°F