

Chapter 3 Topics

- Plot an ordered pair and identify the quadrant it lies in.
- Determine if an ordered pair is a solution to a linear equation in two variables.
- Find solutions to equations in two variables and use these points to draw the graph of the equation. Find the x and y intercepts.
- Graph horizontal and vertical lines.

Name the quadrant in which each pair lies. Then plot each ordered pair in a rectangular coordinate system.

9. $(2, 3)$ **I**

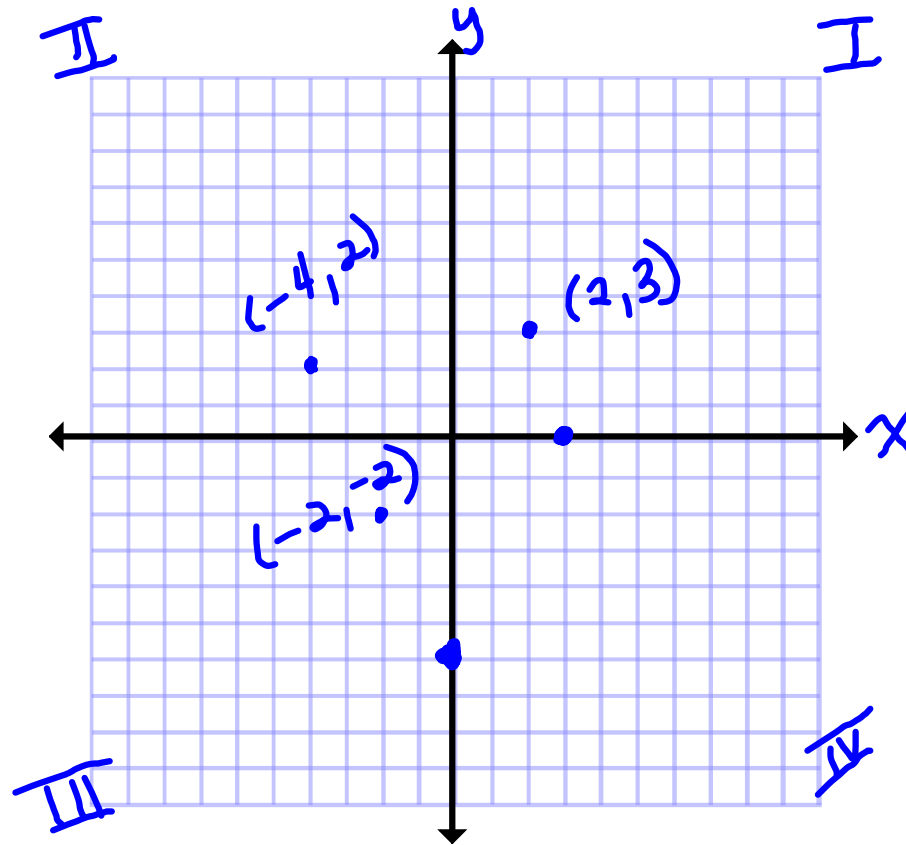
10. $(-4, 2)$

11. $(3, 0)$ **x-axis**

12. $(0, -6)$

13. If $xy > 0$, in what quadrant or quadrants must (x, y) lie? **In III**

y-axis



Complete the given ordered pairs for each equation.

2. $y = 3x + 2$; $(-1, -1)$, $(0, 2)$, $(1, 5)$

3. $4x + 3y = 6$; $(0, \quad)$, $(\quad, 0)$, $(-2, \quad)$

4. $x = 3y$; $(0, \quad)$, $(8, \quad)$, $(\quad, -3)$

5. $x - 7 = 0$; $(7, -3)$, $(7, 0)$, $(7, 5)$

$$x = 7$$

$$2) y = 3(-1) + 2$$

$$y = -3 + 2$$

$$y = -1$$

$$y = 3(0) + 2$$

$$y = 2$$

$$\begin{array}{r} -5 = 3x + 2 \\ -2 \quad -2 \\ \hline 3 = 3x \end{array}$$

$$1 = x$$

Determine whether the given ordered pair is a solution of the given equation.

6. $x + y = 7$; $(2, 5)$ ✓

8. $3x - y = 4$; $(\frac{1}{3}, -3)$ ✓

$$3(\frac{1}{3}) - (-3) = 4$$

$$1 + 3 = 4$$

7. $2x + y = 5$; $(-1, 3)$

$$2(-1) + 3 = 5 \quad \text{No}$$

$$-2 + 3 \neq 5$$

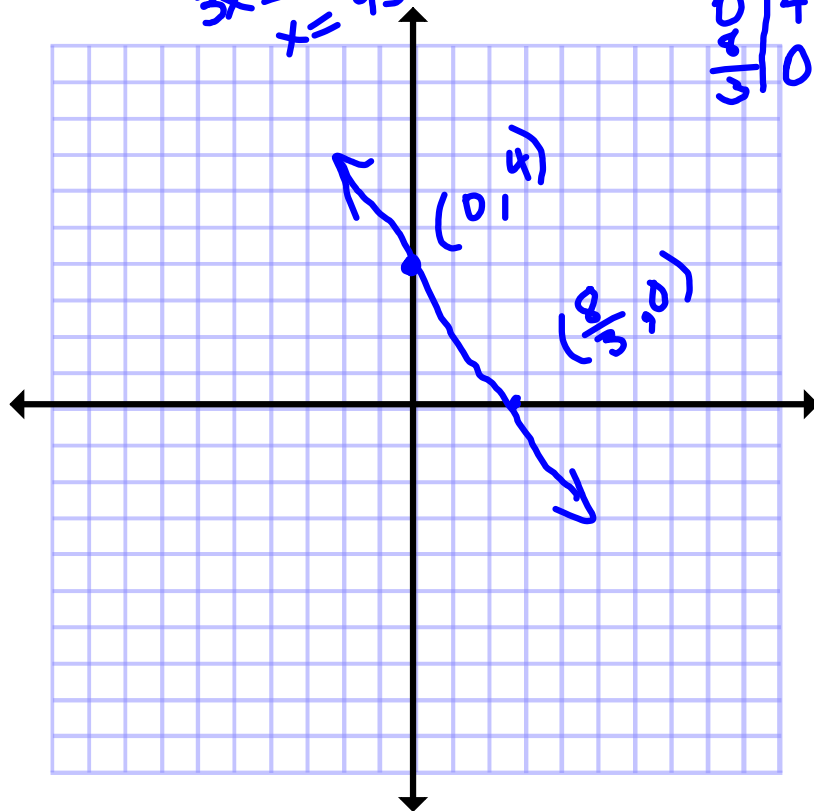
x-int (#, 0)

y-int (0, #)

[3.2] Find the x- and y-intercepts for the line that is the graph of each equation, and graph the line.

14. $y = 2x + 5$

$3x + 2(0) = 8$
 $3x = 8$
 $x = 8/3$



15. $3x + 2y = 8$

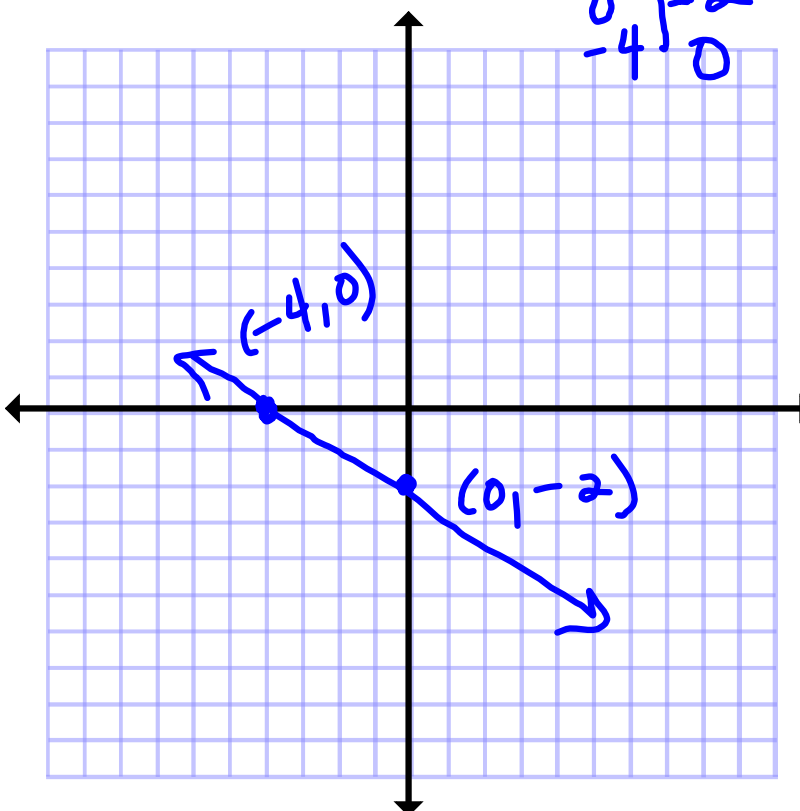
$3(0) + 2y = 8$
 $y = 4$

x	y
0	4
8/3	0

16. $x + 2y = -4$

$0 + 2y = -4$
 $x + 2(0) = -4$

x	y
0	-2
-4	0



Graph each linear equation. See Examples 1–5.

23. $x = y + 2$

24. $x = -y + 6$

25. $x - y = 4$

26. $x - y = 5$

27. $2x + y = 6$

28. $-3x + y = -6$

29. $3x + 7y = 14$

30. $6x - 5y = 18$

31. $y - 2x = 0$

32. $y + 3x = 0$

33. $y = -6x$

34. $y = 4x$

35. $y + 1 = 0$

36. $y - 3 = 0$

37. $x = -2$

38. $x = 4$

