EXERCISES

First complete the values in each table. Then graph the equation in a coordinate plane. (Hint: They are on a straight line.)

1. $y = 2x$

x	$y = 2x$	(x, y)
0	$y = 2(0) = 0$	(0, 0)
1		
2		
3		
4		

2. $y = -2x$

x	$y = -2x$	(x, y)
−1	$y = -2(-1) = 2$	(−1, 2)
0		
1		
2		
3		

3. $y = 2x - 1$

x	$y = 2x - 1$	(x, y)
−2	$y = 2(-2) - 1 = -5$	(−2, −5)
−1		
0		
1		
2		

4. $y = 3x + 2$

x	$y = 3x + 2$	(x, y)
−4		
−2		
0		
2		
3		

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

x	$y = \frac{1}{2}x - 1$	(x, y)
−2		
−1		
0		
2		
5		

Use the x - intercept **and** y - intercept **to graph each equation.**

6. $y = x + 1$

7. $y = x - 2$

8. $y = 2x - 4$

9. $y = 4 - x$

10. $y = 4 - 2x$

11. $y = 3x - 6$

12. $y = -3x + 6$

13. $y = -4x + 2$

14. $y = x + \frac{1}{2}$

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

16. $y = \frac{1}{2}x + 4$

17. $y = -\frac{1}{3}x - 3$

18. $y = 0.5x - 2$

19. $y = -0.5x + 2$

20. $x - y = 5$

21. $x + y = 5$

22. $2x + y = 4$

23. $2x - y = 4$

24. $x + 3y = 9$

25. $x - 3y = 9$

26. $4x - y = 2$

27. $-4x + y = 2$

28. $-2x + y = 1$

29. $-2x + 5y = 10$

30. $y = x$

31. $y = 3x$

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

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

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

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

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Graph each equation in a coordinate plane.

36. $y = 3$ **37.** $x = 5$ **38.** $y = -1$ **39.** $x = -4$ **40.** $y = 6$

41. $y = -5$ **42.** $x = 7$ **43.** $x = -7$ **44.** $x = 0$ **45.** $y = 0$

46. Describe the graph of the equation $x = 0$ in a coordinate plane.

47. Describe the graph of the equation $y = 0$ in a coordinate plane.

48. For what value of k is the point $(2, -3)$ in the graph of the equation $6x + ky = 3$?

49. For what value of k is the point $(-2, 3)$ in the graph of the equation $kx - 5y = 1$?

50. For what value of k is the point $(6, k)$ so that it is a solution of the equation $3x + 5y = 3$?

51. For what value of k is the point $(k, -4)$ so that it is a solution of the equation $2x + y = 1$?

52. Find an equation for the group of ordered pairs (1, 6), (2, 7), (3, 8).

53. Find an equation for the group of ordered pairs $(1, \frac{1}{2})$, (2, 1), (4, 2).

54. Find an equation for the group of ordered pairs (2, 3), (4, 7), (6, 11).

55. Write an equation for the data in the table below. Graph the equation.

x	0	1	2	3	4	5	6	7
y	4	6	8	10	12	14	16	18

56. The table shows the distance that a bus travels over time. Let the horizontal axis represent time (t) in hours. Let the vertical axis represent distance (d) in miles. Find and graph the equation for the data.

Time (hours)	0	1	2	3	4	5
Distance (miles)	0	60	120	180	240	300

57. The equation $d = 50\,t$ represents distance in miles and time in hours for a car traveling at a constant speed of 50 miles per hour. Graph the equation for the data.

t	0	2	4	6
d	0	100	200	300

In an English class, the teacher asked the kids to write a letter to his (her) mother regarding what he (she) did today in school. The teacher noticed that John was writing very slowly.

Teacher: John, why do you write so slowly ?

John: My mom could not read fast.