

Chapter 4 Review Exercises

Fill in the blank with the word or words that correctly completes the sentence.

1. The x -coordinate and the y -coordinate together form a(n) _____ . (4.1)
2. The point where the x -axis and the y -axis intersect is called the _____ . (4.1)
3. A point on the x -axis or y -axis is called a(n) _____ point. (4.1)
4. A(n) _____ line is one that goes straight up and down. (4.1)
5. All points that have two negative coordinates are in _____ . (4.1)
6. Three or more points on the same line are said to be _____. (4.2)
7. The location where a line crosses the x -axis is called the _____. (4.3)
8. A linear equation written $y = mx + b$ is in _____ form. (4.3)
9. A linear equation written $Ax + By = C$ is in _____ form. (4.6)
10. A line that has a slope of 0 is called a(n) _____ line. (4.6)

Section 4.1

Determine whether the given ordered pair is a solution to the equation $4x - 3y = -12$

- | | | | |
|------------|------------|--------------|-------------|
| 11. (3, 0) | 12. (0, 4) | 13. (-6, -4) | 14. (-3, 8) |
|------------|------------|--------------|-------------|

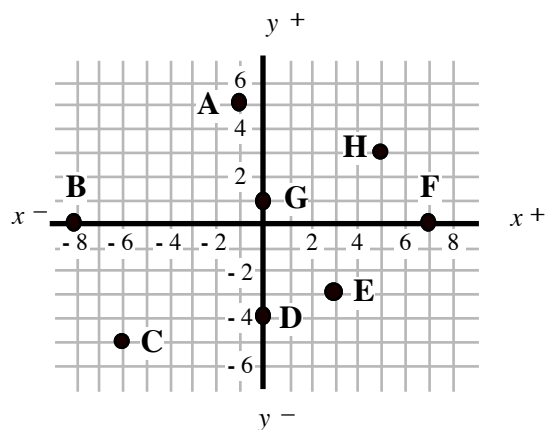
Determine in which quadrant each point lies.

Describe where each axial point is located in the x - y -plane.

- | | | | |
|---------------|----------------|-------------|-------------|
| 15. (12, -19) | 16. (-81, -22) | 17. (0, -9) | 18. (11, 0) |
|---------------|----------------|-------------|-------------|

Given the graph at the right, identify the ordered pair of each point shown.

- | | |
|-------|-------|
| 19. A | 20. B |
| 21. C | 22. D |
| 23. E | 24. F |
| 25. G | 26. H |



From a given point, locate and label a new point in the x - y -plane according to the directions, then draw the line through these two points.

- 27.** The given point is $(-4, 3)$.
1. Count down 5 spaces, and
 2. Count to the right 4 spaces.
 3. Plot and label the new point.
 4. Draw the line through these two points.

- 28.** The given point is $(5, -2)$.
1. Count up 4 spaces, and
 2. Count to the left 5 spaces.
 3. Plot and label the new point.
 4. Draw the line through these two points.

Plot the three points of the given equation, and draw the line that passes through them.

Plot the given points and draw the line that passes through them. Also, identify three other points on the line.

- 29.** The line equation $y = \frac{1}{2}x + 3$ passes through the points $(-4, 1)$, $(2, 4)$ and $(6, 6)$.

- 30.** $(-1, -3)$ and $(1, 1)$

Section 4.2

Graph the line with the given equation by first finding three points on the line.

31. $x + 4y = -8$

32. $3x - y = 6$

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

34. $y = \frac{2}{3}x - 5$

Graph the line with the given equation by first finding three points on the line. Use the given larger scale.

- 35.** $y = 20x - 30$; Use a scale that is 10 times the normal scale.

Section 4.3

Answer as indicated. Simplify the ratio to lowest terms.

- 36.** The elevation at an outpost on a mountain is 3,800 feet, and the summit is at 4,700 feet. The horizontal distance from the outpost to the summit is 1,200 feet. What is the (average) slope ratio of this part of the mountain?

Draw the line that passes through the given point and has given slope. Find and label two other points on the line.

37. $(-5, 0)$ and slope $m = 4$

38. $(6, 1)$ and slope $m = -\frac{4}{3}$

Identify the slope and the y-intercept of the line, and use them to graph the line.

39. $y = 3x - 5$

40. $y = -\frac{3}{5}x + 6$

Section 4.4

Given the graph of each line, find the slope by counting the rise and the run.

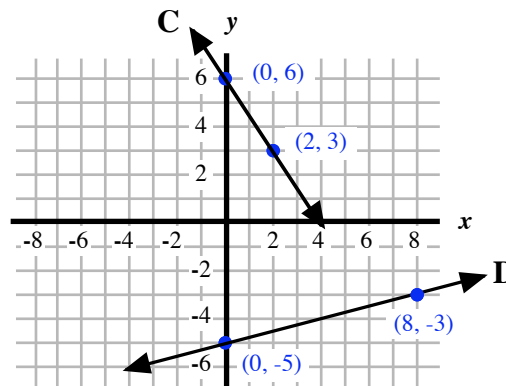
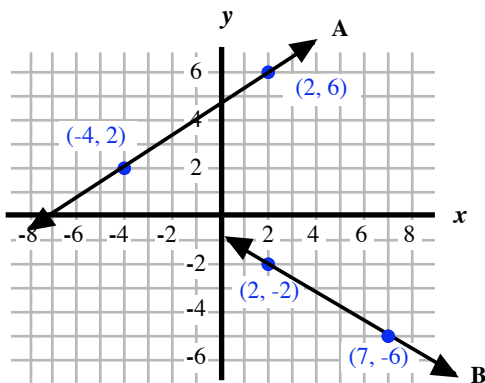
Given the graph of the line, identify its slope and y-intercept, and use them to write the equation of the line.

41. Line A

42. Line B

43. Line C

44. Line D



Use the slope formula to find the slope of the line that passes through the given points. Simplify, if possible.

45. $(7, -4)$ and $(1, 6)$

46. $(-10, -8)$ and $(2, 10)$

Find the equation of the line that passes through the given points.

47. $(0, 8)$ and $(-6, -8)$

48. $(-10, 6)$ and $(0, -9)$

Section 4.5

For each you are given the slope of a line and a point on the line. Use the information to find the y-intercept, b , and write the equation of the line.

49. $(-2, 13)$; $m = -3$

50. $(-12, 8)$; $m = \frac{5}{6}$

For each you are given two points on a line. Find the equation of the line by first finding its slope.

51. $(-6, 4)$ and $(12, 7)$

52. $(-6, -2)$ and $(-9, -10)$

Section 4.6

Write each equation in standard form.

53. $y = 2x + 8$

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

Write each equation in slope-intercept form. Also, identify the y-intercept point and the slope.

55. $x + 3y = -12$

56. $5x - 2y = 6$

Find and plot both the x- and y-intercept points. Identify the slope and at least one other point on the line and draw the line.

57. $x + 4y = -8$

58. $2x - 3y = 12$

Graph each line, and state the slope.

59. $y = -2$

60. $x = 6$

For each, write the equation of the line shown in the graph.

61. Line A

62. Line B

