

Algebra I CP Quarter 2 Review Chapters 6 and 8

Find the x -intercept.

1. $x + 6y = 7$

2. $4x + y = 3$

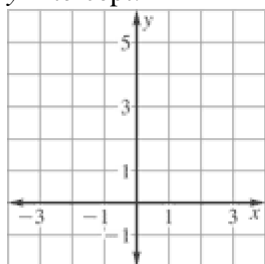
Find the y -intercept.

3. $y - 3x = 4$

4. $2y + x = 8$

Sketch the line that has the given intercepts.

5. x -intercept: 1
 y -intercept: 2



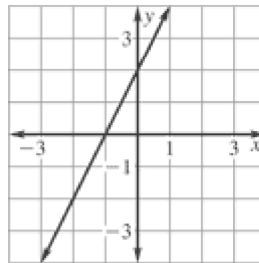
Find the slope of the line passing through the points.

6. $(3, 4), (1, 3)$

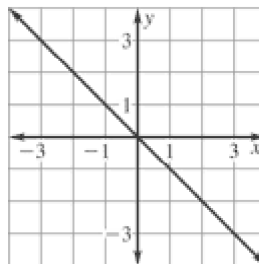
7. $(2, 7), (5, 6)$

Find the slope of the line.

8.



9.



Find the slope and y -intercept.

10. $y = 2x + 5$

11. $y = 5 - 3x$

Decide whether the graphs of the two functions are parallel lines.

12. $f(x) = 2x + 1; f(x) = 2x - 8$

13. $f(x) = 4x - 3; f(x) = -4x + 3$

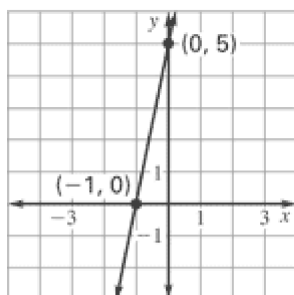
Write an equation of the line in slope-intercept form.

14. The slope is -5 ; the y -intercept is 7 .

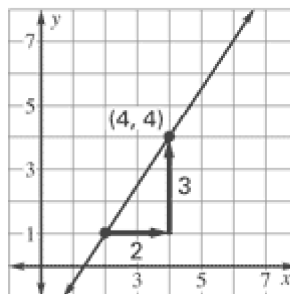
15. The slope is 10 ; the y -intercept is -3 .

Write an equation of the line shown in the graph.

16.



17.



Write an equation of the line that passes through the point and has the given slope. Write the equation in slope-intercept form.

18. $(3, 0), m = -2$

19. $(1, 2), m = 2$

Write an equation in slope-intercept form of the line that passes through the points.

20. $(-4, 2), (1, -1)$

21. $(-2, -1), (3, 5)$

Write an equation in point-slope form of the line that passes through the given points.

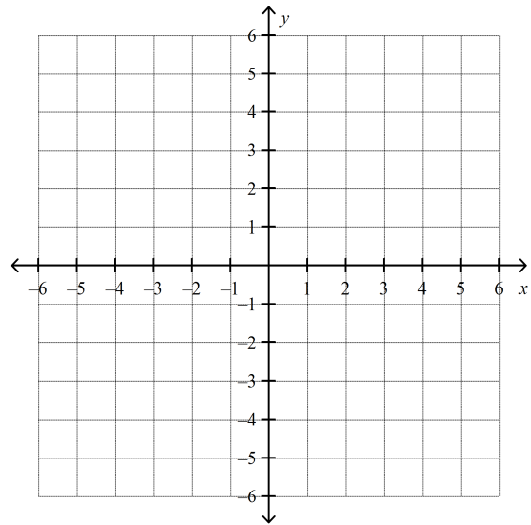
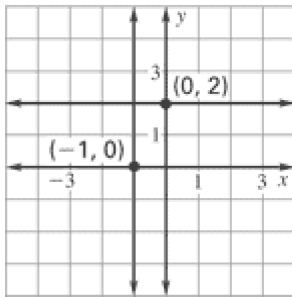
22. $(-3, -4), (3, 4)$

23. $(-5, -4), (7, -5)$

26. Sketch the graph for the linear inequality.
 $2x - y < 3$

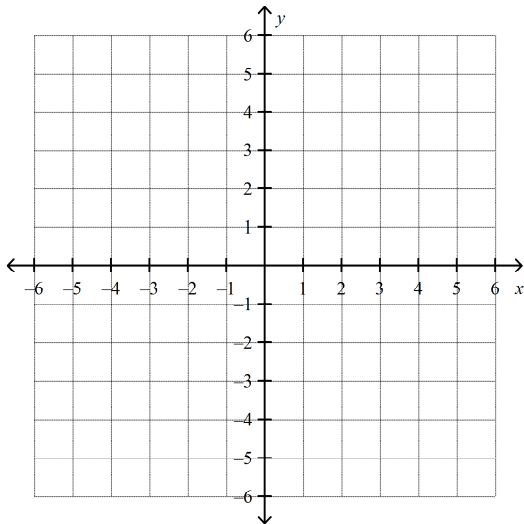
Write the equations in standard form of the horizontal and vertical lines.

24.



25. Sketch the graph for the linear inequality.
 $y \leq -\frac{7}{3}x + 4$

27. Write a linear equation to model the situation. You borrow \$70 from your brother. To repay the loan, you pay him \$7 per week.



Simplify. Your answer should contain only positive exponents.

28. $3b \cdot 3b \cdot 2b^3$

29. $\left(\frac{2y^2z^{-3}}{6y^{-3}z^4} \right)^{-2}$

30. $(-8a^3b^4) \cdot (2a^{-7}b^6)$

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31. $3v^3 \cdot 3v$

40. $\frac{12x^3y^2z^4}{3x^4yz^2}$

32. $(4jh^0k^2)^4$

41. Simplify $\left(\frac{4x^4y^3}{3x^2y^{-3}}\right)^{-3}$

33. $(3x^2y^3)^3$

34. $\frac{q^2}{2pqr^3}$

42. $\frac{2r^3 \cdot (3r)^2}{2r^{-1}}$

35. $\frac{x^3z^4}{3x^2y^4}$

43. $x^{-2}y^3$

36. $2x^3y^5z \cdot (-3xy^5z^8)$

44. $\frac{n^{-2}}{(3n)^3n^2}$

37. $\left[\left(489x^{23}y^3z^{17}\right)^7\right]^0$

45. $\frac{(2b^2 \cdot b)^2}{3b}$

38. $(-2a^2bc^2)^4$

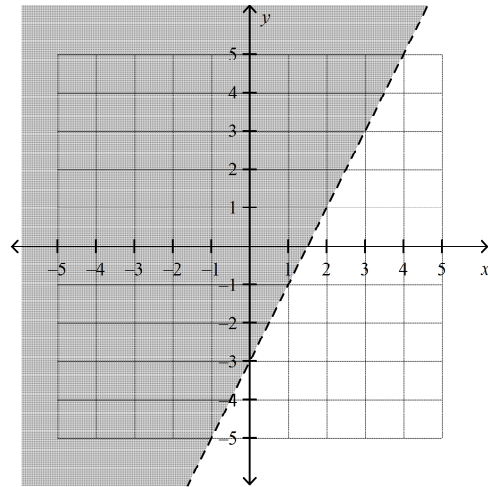
46. $\frac{\frac{x^3}{y^5}}{\frac{3}{y^3}}$

39. $(-2pm^2q^3)^{-3}$

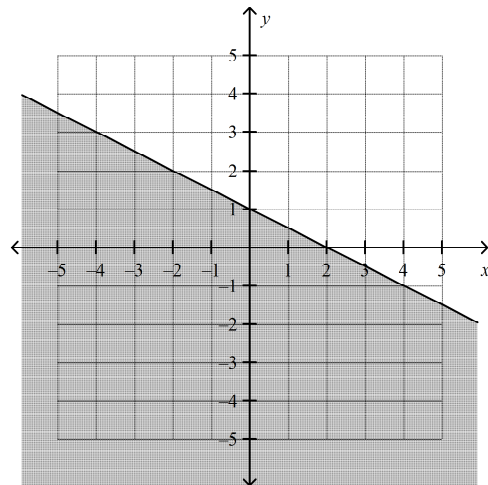
47.
$$\frac{\frac{-2ab^2}{3xy}}{\frac{4a^3}{9x^3y}}$$

48. A quiz consists of 5 true and false questions. How many different sets of answers are possible?
49. A test has 10 multiple choice questions with 5 answer choices for each question. How many different sets of answers are possible?
50. The local prison is making new license plates for New York. If the plates use a pattern of
 1 letter 2 numbers 2 letters 1 number
 how many different combinations are possible if letters and numbers may be repeated?
51. Tony is getting a sandwich from the local deli. There are 3 different breads, 4 meats, and 2 cheese selections. How many different sandwiches containing 1 bread type, 1 meat and 1 cheese could he make?

52. What inequality is represented by the following graph?



53. What inequality is represented by the following graph?



Simplify the radical as far as possible.

54. $\sqrt{300}$

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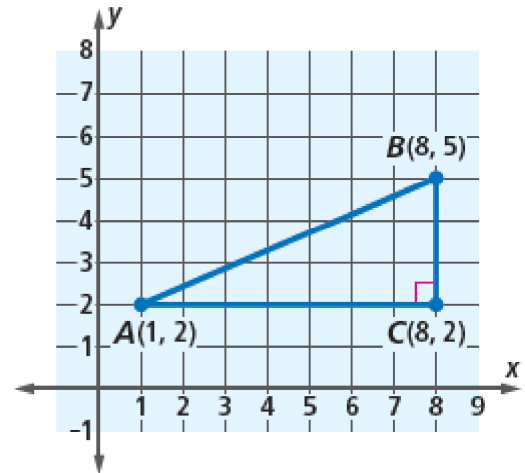
55. $\sqrt{450}$

63. (15, 2) and (20, -10)

56. $\sqrt{20x^4y^6}$

64. Find the exact distance from point A to point B.

57. $\sqrt{54a^2b^2}$



58. $\sqrt{147x^5y^7}$

59. $\sqrt{\frac{5n^5}{4m^5}}$

60. $\frac{\sqrt{9x^5y}}{\sqrt{12x^2y^6}}$

65. A square has a diagonal length of 14 meters. What is the area of the square?

Find the exact and approximate distance between these two points in a coordinate plane.

66. A square has an area of 1,000 square units. What is the exact length of one side?

61. (-6,-7) and (-2, 0)

67. A cube has a volume of 2 cubic meters. What is the exact length of an edge?

62. (4, 9) and (8, 6)

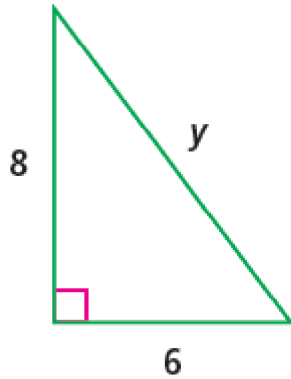
68. Find the exact length of the hypotenuse of a right triangle if the two sides are 6 and 3.

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69. Find the length of the diagonal of a square if its area is 128 square centimeters.

70. Find the length of the missing side.



71. Find the length of the missing side.

