

1. Find the mean of these basketball scores: 88, 75, 91, 89.
2. The hourly wages of eight students are three at \$5.25, two at \$5.50, two at \$5.75, and one at \$6.00. What is the median wage?
3. On a test six students scored 80, three scored 85, one scored 92, one scored 75, and one scored 62. What is the mode score for the test?
4. Express the total cost c of four tuna sandwiches t .
5. How many terms does $2 \times 3 + 5 - 3x + 1$ contain?
6. Use an equation to model the perimeter p of a regular hexagon.

Evaluate each expression

7. $4x + 3$ for $x = 8$
8. Evaluate $(2)(3^2) + 4x$ for $x = 3$
9. $(d + 2) \div (d - 2)$ for $d = 6$
10. Evaluate $(4 + p)^2$ for $p = 5$
11. $25 - 4x$ for $x = -5$
12. $a - b + 3c$ for $a = 15$, $b = 12$, and $c = -5$

Simplify

13. $\frac{2^3}{-2}$
14. $\frac{5p - x}{3}$ for $p = 4$
15. Evaluate $\frac{2}{3} \div \frac{2}{5}$
16. Use the comparison symbol $<$ (less than) to order $\frac{3}{8}$ and $\frac{3}{5}$.

17. Subtract the following matrices.
$$\begin{bmatrix} 5 & 2 \\ 3 & 6 \end{bmatrix} - \begin{bmatrix} 3 & -6 \\ 4 & -1 \end{bmatrix}$$

18. Name three types of correlation.
19. If the trend line slants downward and to the right, what kind of correlation is this?
20. Classify the data as discrete or continuous. The total number of plays during four football games.

21. Identify the dependent variable for each of the following pairs of items. Time spent studying for this test, score on this test.
22. Find the range of this function when the domain is $\{-1, 4, -2\}$. $y = 4x - 3$.
23. Find $f(3)$ for the following function $f(x) = 4x + 3$
24. Graph $y = x^2 - 3$
25. To what family of functions does the equation represent? $y = |x| + 2$.
26. Find the probability for one roll of a number cube with six sides. $P(\text{number} \geq 3)$

Solve each equation

27. $5 + x = -13$
28. $-6 = -3n$
29. $-\frac{b}{3} = 107$
30. $x - 3 = 9$
31. $m - 4m = 2$
32. $8h - 3 + 2h = 7$
33. $3.2(m + 2) = 16$
34. $\frac{x}{5} - \frac{x}{3} = 8$
35. $\frac{2c + 1}{7} = 3$

Solve each equation.

36. $-3c + 7 = 25$ _____
37. $\frac{1}{2}y = y - 6$ _____

Solve for the given variable

38. $s = n - 90$; n _____
39. $y = mx + b$; b _____

Solve each equation.

40. $\frac{6}{30} = \frac{m}{84}$ _____
41. $\frac{x}{3} = \frac{8}{24}$ _____
42. $|m + 6| = 5$ _____

43. $|p| - 2 = 10$ _____

44. Write four numbers that are solutions for the inequality $h - 2 < -1$.

45. Solve and graph $-8w < 24$

46. Solve and graph $9 + p \leq 17$

47. Write four numbers that are solutions of the inequality. $-2r \geq -4$.

48. Solve and graph $t - 5 \geq -13$

Solve each compound inequality

49. $-3 \leq x + 2 \leq 7$ _____

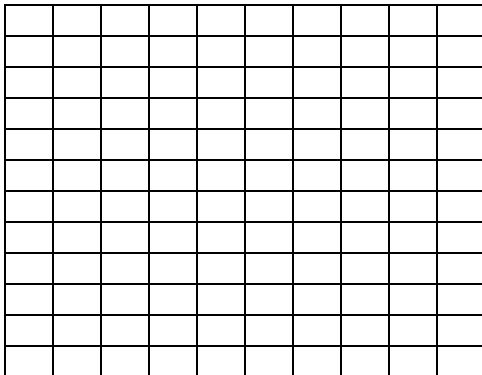
50. $-2 < z - 2 < 4$ _____

Find the slope of a line passing through the given points.

51. $(4, 8), (2, 5)$ _____

52. $(1, 6), (7, 3)$ _____

53. Graph the line that has a slope of $\frac{1}{2}$ which passes through the point $(1, 2)$



Write a direct variation equation for each point

54. $(-3, -10)$ _____

55. $(4, -8)$ _____

56. Write the formula for finding perpendicular slope. _____

57. Write the point - slope formula. _____

Write the equation of a line that has the following slope and passes through the following point.

58. $m = 4$ passes through $(7, 3)$ $y =$ _____

59. $m = -5$ passes through $(0, 2)$ $y =$ _____

Write each equation in Standard Form

60. $3y = 2x + 6$ _____

61. $y = 4x - 7$ _____

Write an equation of the line through the given points

62. $(0, -3)$ $(\frac{1}{2}, 6)$ _____

State the x and y intercept

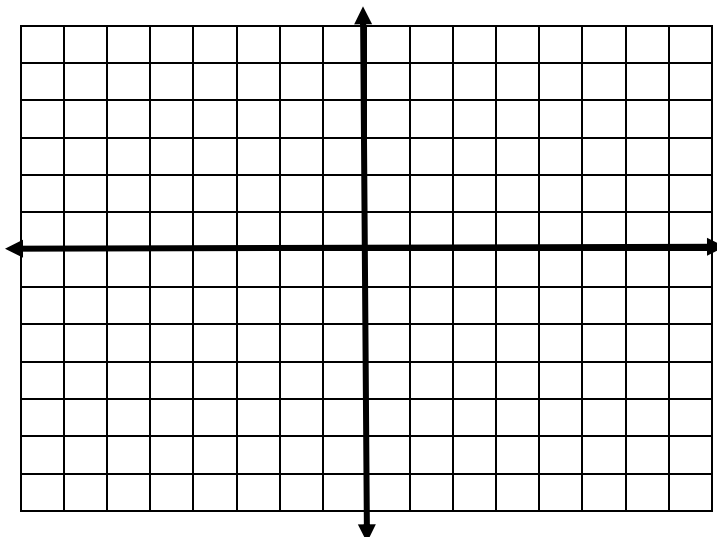
63. $2x - 5y = 10$ y intercept: _____ x intercept _____

64. $3y = 9$ y intercept: _____ x intercept _____

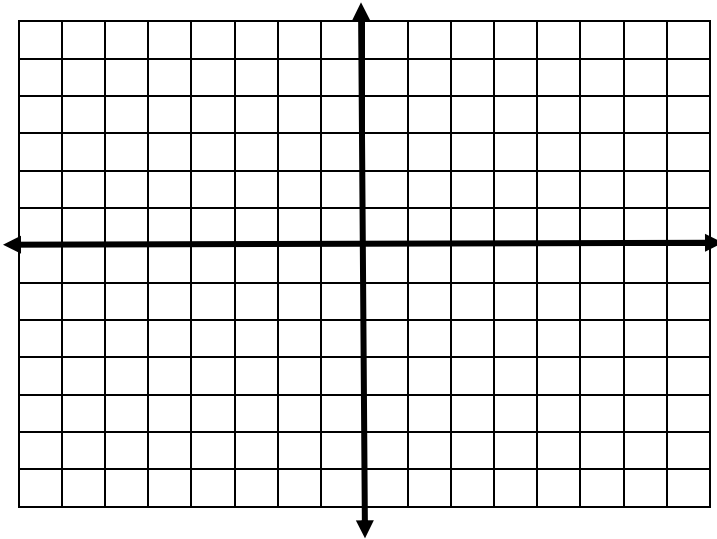
65. $x + y = 1$ y intercept: _____ x intercept _____

Solve the system of linear equations by graphing.

66. $y = 2x - 3$
 $y = x - 1$ _____



67. $-4y = 4 + x$
 $x + y = -1$



Solve the system of linear equations by substitution.

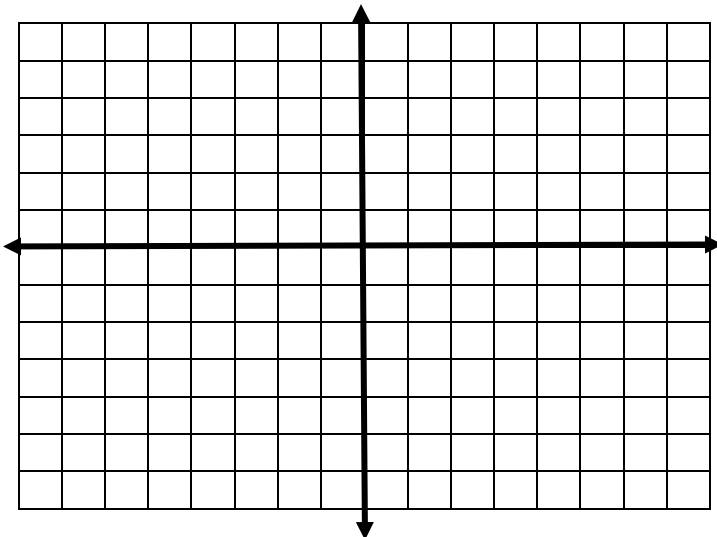
68. $y = x + 2$
 $y = -x + 4$

Solve the system of linear equations by elimination.

69. $x + 3y = 7$
 $x - 4y = 14$

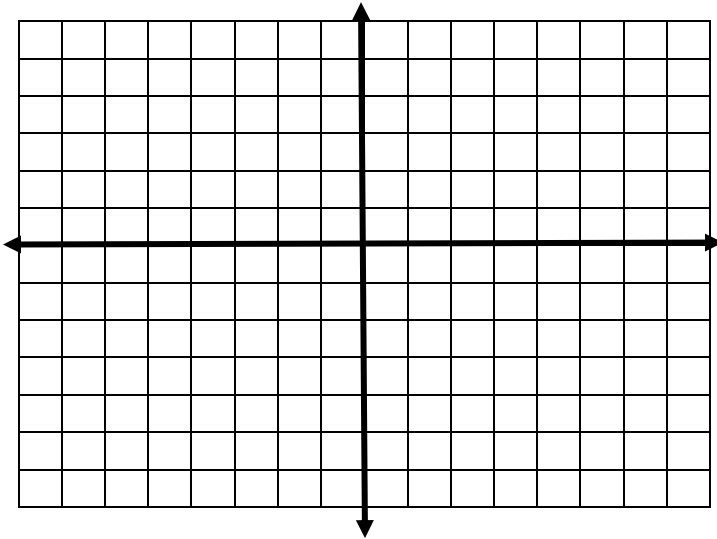
70. A Jar contains 130 coins. If the ratio of pennies to dimes is about 9 to 2, how many coins of each type are in the jar? What is the total value of the coins? Solve using a systems of linear equations.

71. Graph $y > -2x + 1$



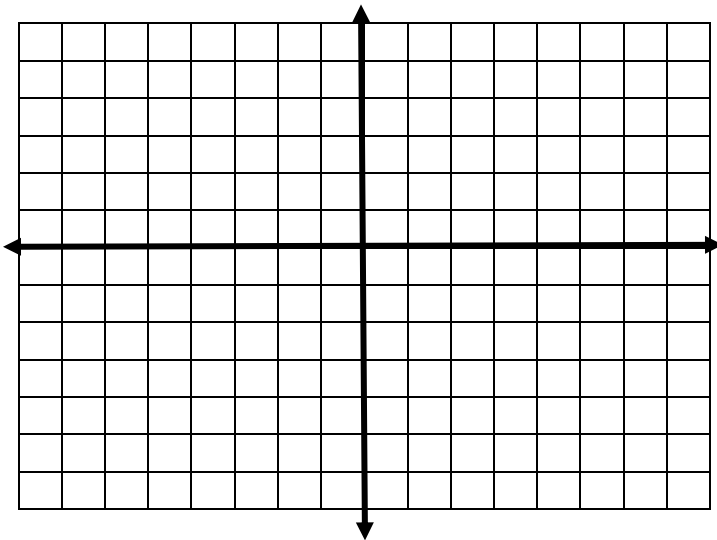
Solve the system by graphing

72. $-2y < 4x$
 $2x + 3y \leq 4$



Use linear programming to find the values of x and y that maximize the equation.

73. $y \geq 1$
 $y \leq -2x$
 $x \geq -2$
Equation: $Q = 2x - y$
Show your graph, vertex points, and test values.



Name the values of a, b, and c for the quadratic function.

74. $y = 3x^2 - 2x + 5$

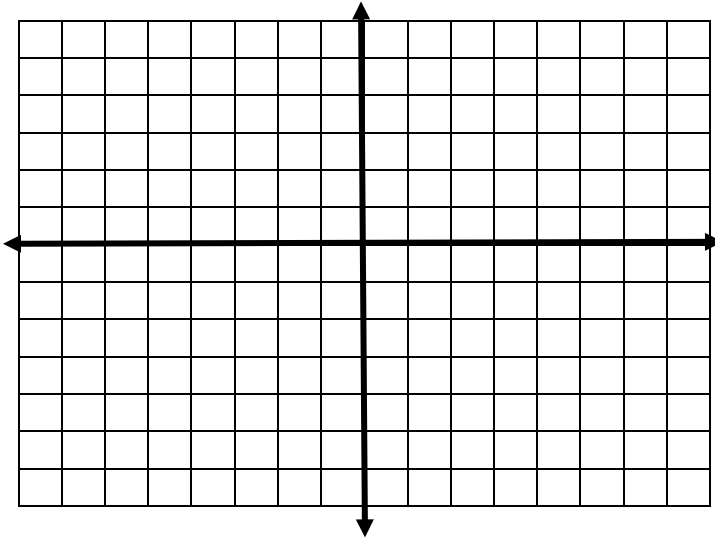
Describe whether each quadratic function has a maximum or minimum.

75. $y = -2x^2 + 2$

76. $y = \frac{1}{4}x^2$

Graph the quadratic function, label its axis of symmetry, vertex, and y-intercept

77. $f(x) = 5 - 4x - x^2$



Simplify each expression

78. $\sqrt{64}$

79. $-\sqrt{100}$

80. $\sqrt{\frac{9}{16}}$

81. $\pm\sqrt{0}$

Solve

82. $2x^2 - 98 = 0$

83. $x^2 = 16$

Solve using the quadratic Formula. Show work. leave in radical form..

84. $2x^2 + 4x - 7 = 0$

Find the number of solutions in the equation and state the discriminant.

85. $x^2 - 3x + 4 = 0$

86. $x^2 - 6x + 9 = 0$

Evaluate each function for the domain (2,3,4). Does the function increase, decrease or neither?

87. $y = 5^x$

88. $h(x) = 1^x$

Solve.

89. Since 1985, the daily cost of patient care in community hospitals in the United States has increased about 8.6% per year. In 1985, hospital costs were an average of \$460 per day.
- Write an equation to model the cost of hospital care. _____
 - Use your equation to find the approximate cost per day in 1995. _____

Identify each function as exponential growth or exponential decay.

90. $y = 0.68 \cdot 2^x$ _____
91. $y = 2 \cdot 0.68^x$ _____

Find the percent of decrease for each function.

92. $y = 70 \cdot 0.9^x$ _____
93. $f(x) = 45 \cdot 0.998^x$ _____

Write each expression as a simple fraction.

94. 4^{-3} _____
95. $(-7)^0$ _____

State if the numbers are in scientific notation. If not write them in scientific notation.

96. 11.24×10^4 _____
97. 2.004×10^{-23} _____
98. -12×10^{-2} _____

Simplify the expressions

99. $(a^2 b^3)(a^6)$ _____
100. $(a^3)^4$ _____
101. $(3x^3)^2$ _____
102. $\frac{x^4}{x^5}$ _____
103. $\frac{i^{3j-4}}{i^{-5j-6}}$ _____
104. $\left(\frac{2}{y^3}\right)^2$ _____
105. $\left(\frac{2x}{3}\right)^{-2}$ _____

106. Katsuya Yamisaki has a bag with 6 purple marbles, 4 red marbles, and 5 green marbles. He randomly draws one marble. What is the probability that . . .
- The marble is red?
 - The marble is purple?
 - The marble is green?

107. A single die is rolled 4 times and comes up 3, 4, 5, and 6. What is the probability that the next roll will produce a number greater than 2?

Solve Each Quadratic Equation by using the method listed

Solve by Factoring

108. $r^2 - 3r - 4 = 0$

109. $x^2 + 10x = -25$

Solve by using the difference of two squares theorem

110. $x^2 - 49$

111. $9x^2 - 81$

Solve by Completing the Square

112. $3x^2 + 5x = 2$

113. $2x^2 - 9x + 8$

Solve by using the Quadratic Formula

114. $2x^2 - 13x = 7$

115. $-3x^2 + 4x - 4 = 0$

Solve the following functions

116. $f(x) = x^2 + x + 1$, find $f(c - 1)$

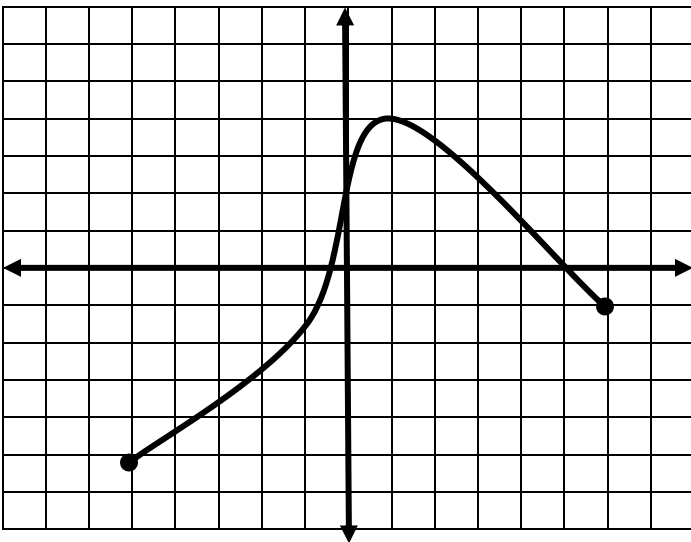
117. Find the domain of the function $f(x) = \sqrt{x - 3}$

Tell whether each set of order pairs is a function, relation, or not a relation

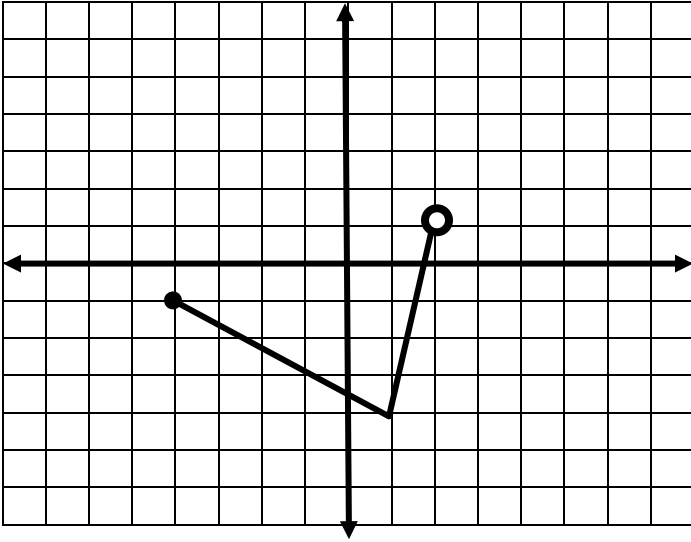
118. $\{(1,0), (1, -1), (4, -1), (1, 4)\}$

119. $\{(2, 1), (0, -1), (1, 3), (4, -4)\}$

120. Find the domain and range of the graphed function



121. Find the domain and range of the graphed function



Tell if each mapping is a function, relation, or not a relation.

