

Summer Math Packet

Date _____

Evaluate using the given values.

1) $rp - q \div 6$; use $p = 11$, $q = 6$, and $r = 9$

Evaluate the expression. Express your answer as a reduced fraction or mixed number.

2) $\frac{1}{2} + \frac{12}{7}$

Find the quotient.

3) $\frac{1}{2} \div \frac{3}{2}$

Solve the equation.

4) $-2(9b - 21) = -14b - 94$

Solve the proportion.

5) $\frac{5}{2} = \frac{7}{m}$

6) Express 81% as a decimal.

7) Express 38.4% as a fraction reduced to lowest terms.

Solve each problem. Round your answer to the nearest tenth.

8) What is 65% of 57.2?

9) 85% of what is 32.8?

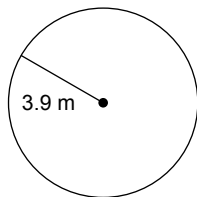
Name the set or sets to which each number belongs. Make use of the following labels: integers, irrational, natural, rational, real, and whole.

10) $\sqrt{34}$

11) $\sqrt{9}$

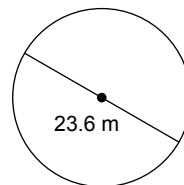
Find the circumference of the circle. Use your calculator's value of π . Round your answer to the nearest tenth.

12)



Find the area. Use your calculator's value of π . Round your answer to the nearest tenth.

13)

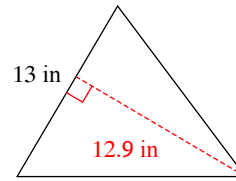


You must show work.

- 14) A rectangular room is 28 feet wide and 34 feet long. What is the perimeter of the room? (You must include the correct units.)

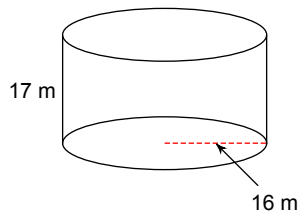
Find the area.

- 15)



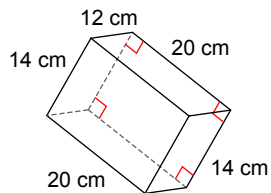
Find the volume. Round your answers to the nearest hundredth, if necessary.

- 16)

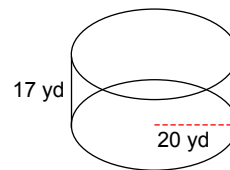


Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary.

- 17)



- 18)



Find the median and mean for each data set. Round any decimals to the nearest tenth.

19) 2012 Summer Olympics

Country	Medals	Country	Medals
France	34	Netherlands	20
Great Britain	65	South Africa	6
Brazil	17	Sweden	8
Georgia	7	Lithuania	5
Poland	10	Iran	12
Ukraine	20	Switzerland	4
Slovenia	4	Ethiopia	7
Canada	18		

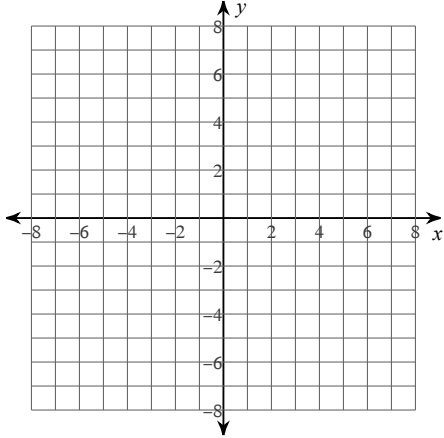
Write your answer to each of the following as a fraction in lowest terms.

20) You roll a fair six-sided die. What is the probability of rolling a 5 or a 6?

21) A black bag contains four red chips, six green chips, eleven yellow chips, and three blue chips. One chip is drawn at random. What is the probability of NOT picking a yellow chip?

Express graph the relation below.

22) $\{(-1, -1), (1, 1), (2, 1), (3, 2)\}$

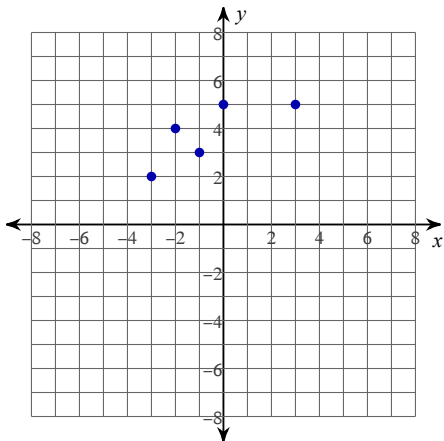


Identify the domain and the range of the following function.

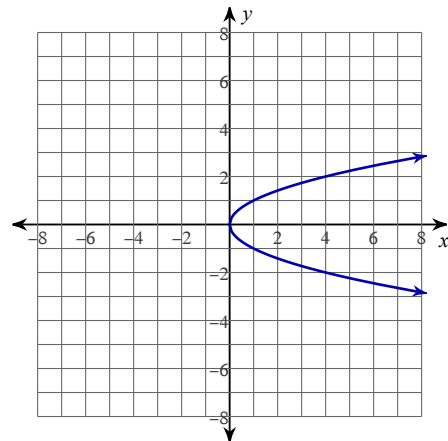
23) $\{(6, -4), (2, -4), (-4, 2), (4, 6), (-2, 6)\}$

Determine whether each relation shown below is a function or is not a function. If the relation is not a function, explain why in your own words.

24)



25)



Evaluate each function.

26) $h(x) = 4x + 2$; Find $h(3)$

Solve the following equations. Answer with the labels "all real numbers" or "no solutions" if necessary.

27) $3(4b - 2) = -6 + 12b$

28) $9m - 4 = -3m + 5 + 12m$

Solve each equation.

29) $|-3 + n| = 13$

30) $|-9m| = 45$

31) Tickets to the county fair are \$8 for an adult and \$5 for a child. If you have a 15% discount card, how much will 2 adult tickets and 2 child tickets cost?

Translate the sentence into an equation.

32) One half the sum of b and five is identical to b plus 9.

Solve. You must set up an equation and show work.

- 33) In November 2010 the average price of 5 gallons of regular unleaded gasoline in the United States was \$14.46. What was the price for 16 gallons of gas? Round your answer to the nearest cent.

Find the percent change. State if it is an increase or a decrease. Round your answer to the nearest tenth of a percent.

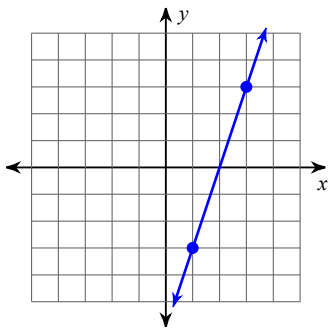
- 34) From 79 to 35

Solve the equation for the indicated variable.

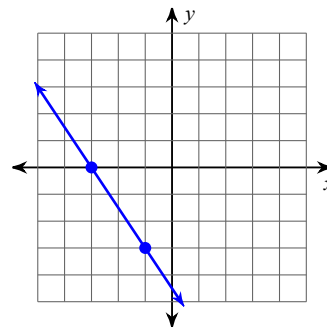
- 35) $g = x + c + y$, for x

Find the slope of each line.

36)



37)

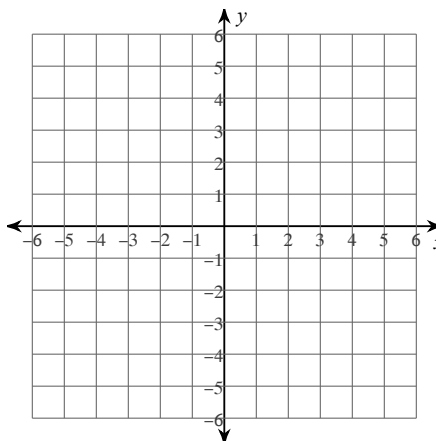


Find the slope of the line through each pair of points. Give your answer as a fraction in lowest terms.

38) $(-10, -13), (7, 1)$

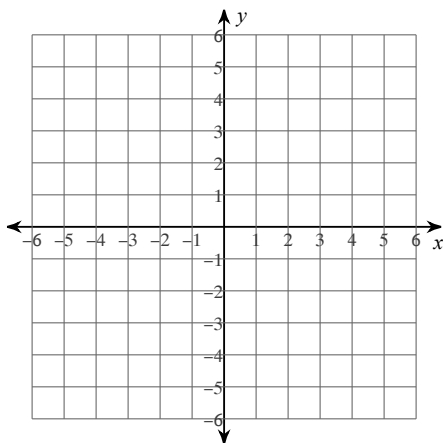
For each line, first determine the x - and y -intercepts, and then use the intercepts to sketch the graph. You must show work.

39) $2x - 3y = 6$



Identify the slope and the y -intercept for the equation, then sketch the graph.

40) $y = -\frac{3}{2}x + 2$



Write the slope-intercept form of the equation of the line described.

41) through: $(-3, -4)$, parallel to $y = -6x + 1$

42) through: $(3, -2)$, perp. to $y = \frac{1}{2}x + 5$

Write the slope-intercept form of the equation of the line through the given points.

43) through: $(2, 4)$ and $(1, 5)$

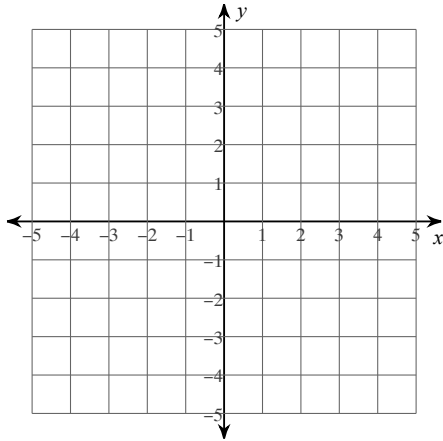
Suppose y varies directly as x and assume $y = 7.5$ when $x = 0.5$.

44) Write a direct variation equation that relates x to y .

45) Find y when $x = -0.3$.

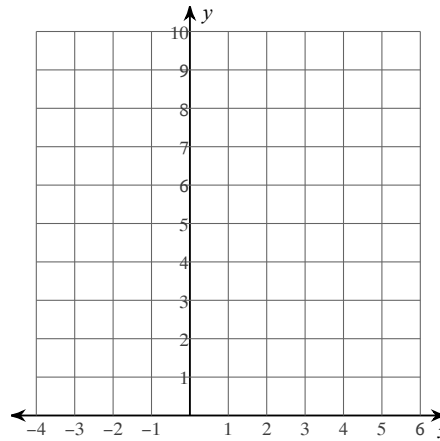
On the coordinate grid below: (1) graph the two given equations, (2) indicate the intersection point, and (3) write down the appropriate coordinate pair for the intersection point.

46) $y = 6x - 3$
 $y = -x + 4$



Make a table of values for the following function using this set of x -values: $\{-1, 0, 1, 2, 3\}$. Then, on the grid below plot the five points from the table and draw an appropriate curve through the points.

47) $y = 2x^2 - 4x + 3$



Given the quadratic equation below in standard form, identify the values of a , b , and c .

48) $y = -3x^2 + 18x - 23$

Given the quadratic equation below in standard form, make use of the vertex

formula, $x = -\frac{b}{2a}$, to find the coordinates of the vertex.

49) $y = 2x^2 + 4x - 2$

Factor completely.

50) $a^2 - 12a + 35$

Solve the equation by factoring.

51) $x^2 + 9x - 22 = 0$

Solve the equation with the quadratic

formula, $x = \frac{-b - \sqrt{b^2 - 4ac}}{2a}$.

52) $5r^2 + 11r + 6 = 0$

Solve the system by elimination.

53) $-3x + 2y = 8$
 $-3x - 6y = 24$

Solve the system by substitution.

$$54) \begin{aligned} 6x + 4y &= -8 \\ y &= 2x - 16 \end{aligned}$$

For the quadratic equation below, find the discriminant and then state the number and type of solutions.

$$55) 2a^2 - 5a + 9 = 0$$

Find the value of c that completes the square.

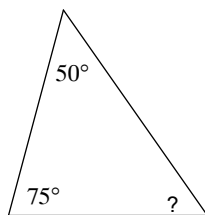
$$56) x^2 + 8x + c$$

Solve the equation by completing the square. Give an exact answer. Show work.

$$57) r^2 - 14r - 2 = 0$$

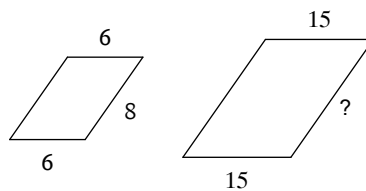
Find the measure of the indicated angle.

58)



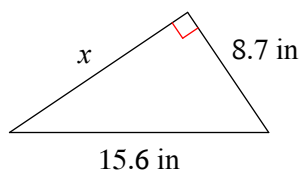
The polygons in each pair are similar. Find the missing side length.

59)



Find the missing side of the triangle. Round your answers to the nearest tenth if necessary.

60)



Solve for x .

61)

