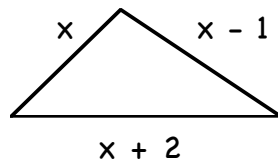


# Summer Review and Practice for Math 8

1. Simplify  $6(2x + 3y) - 3(x - y)$
2. Which expression is equivalent to  $3(n + 2m) + m$ ?
  - a.  $3n + 2m$
  - b.  $3n + 4m$
  - c.  $3n + 6m$
  - d.  $3n + 7m$
3. Evaluate  $2y - x + c - 10$  when  $x = 7$ ,  $y = 10$ , and  $c = 8$
4. What is the value of  $x$  in the following equation?
5. Chris's pay for the week is determined by using the following equation:  
 $292 = 5h + 192$ . How many hours did he work?
6. A rental agency charges \$30 per day for a car. The first 100 miles are free, but any miles after that cost \$0.30 each. Ms. Walker rented a car for three days, and the rental fee was \$135. How many miles did Ms. Walker drive?
7. The quotient of a number and four decreased by one is 7. What is the number?
8. The distance to the beach is fifty miles more than twice the distance to the mountains. If  $d$  represents the distance to the mountain, which expression represents the distance to the beach?
  - a.  $50d$
  - b.  $2d + 50$
  - c.  $50d + 2$
  - d.  $100d + 50$
9. Which set of ordered pairs satisfies  $y = 2x + 3$ ?
  - a.  $\{(0,2), (1,3), (2,4)\}$
  - b.  $\{(0,2), (1,5), (2,8)\}$
  - c.  $\{(0,3), (1,4), (2,5)\}$
  - d.  $\{(0,3), (1,5), (2,7)\}$
10. Which set of ordered pairs satisfies the rule "y equals six less than twice x"?
  - a.  $\{(3,0), (4,1), (5,2)\}$
  - b.  $\{(3,0), (4,2), (5,4)\}$
  - c.  $\{(0,6), (1,4), (2,2)\}$
  - d.  $\{(0,3), (2,4), (4,5)\}$

11. Which statement is true about this set of data? 15, 21, 12, 8, 25, 20, 18, 15, 11, 15
- The range is 15.
  - The mean is 160.
  - The median is 25.
  - The mode is 15.
12. Two sets of data have the same mode and the same median, but have different means. Which of the following sets of data meet these criteria?
- Set 1: 72, 73, 85, 95, 95  
Set 2: 65, 75, 85, 85, 95
  - Set 1: 85, 85, 92, 95, 100  
Set 2: 85, 85, 90, 95, 100
  - Set 1: 80, 85, 90, 90, 95  
Set 2: 85, 87, 90, 90, 93
  - Set 1: 80, 80, 85, 90, 93  
Set 2: 80, 80, 85, 91, 92
13. Jason had these scores on six math quizzes: 79, 80, 85, 70, 100, and 75. Sean's scores on the first five quizzes were 80, 83, 75, 95, and 76. What score does Sean need on his sixth quiz to give him the same average as Jason?
- 79
  - 80
  - 81
  - 82
14. Fill in the blank to make the statement true with  $<$ ,  $>$ , or  $=$   $|-8|$  ?  $|6|$ .
15. What number is 5 less than four times the absolute value of 7?
16. Translate the following to an algebraic expression: Four less than a number is negative seventeen.
17. Assuming this pattern continues, what will be the seventh term in the sequence?  
-3, 6, -12, 24, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
18. In Siberia, a record high temperature of  $98^{\circ}$  has been recorded. The record low temperature is 192 degrees lower than the record high temperature. What was the coldest Siberian temperature?
19. A city's daily low temperature in January fluctuated between  $-7^{\circ}\text{F}$  and  $2^{\circ}\text{F}$ . What was the temperature range?
20. Solve:  $y + 2 = -8$
21. Solve:  $\frac{x}{3} + 5 = 2$

22. Simplify:  $8y - 3x - 5y + 4x$
23. Simplify:  $-2(4a + 3b) + 3(a - 2b)$
24. If the following coordinates are plotted and connected in order, what geometric shape do they make?  $(-2, 4), (4, 4), (-2, -4), (-5, 0), (-2, 4)$
25. List 3 mathematical terms that could replace the word multiply in a word problem.
26. Jessica bought  $a$  adult tickets to a movie at \$7 each and  $s$  student tickets for \$4 each. Write an expression for the total cost?
27. Candace started the summer with \$5. Each time she babysat, she was paid \$15. At the end of the summer the neighbor gave her a bonus of \$25. Write an equation for her total funds, then solve the equation for babysitting 12 times.
28. What is an outlier?
29. Define an algebraic expression in your own words.
30. List 3 mathematical terms that could replace the word subtract in a word problem.
31. Name the property that is shown:  $8 + (2 + y) = (2 + 8) + y$
32. The perimeter of the triangle is 34 yards. What are the lengths of the sides of the triangle?



- 33)  $-32, 0, 35, -40, -15, 39$  are temperatures that were recorded as the high and lows over a three day period. Which temperature has the highest absolute value?
- a. 0                      b. 39                      c. -32                      d. -40

34. A scuba diver is 40 feet below sea level while a seaplane is 50 feet above sea level. How far apart above the scuba diver is the seaplane?
35. Chris bought a hat for \$15 and seven pairs of socks. The total cost was \$32.50. If each pair of socks cost the same amount, how much was one pair of socks?  
 a. \$2.00                      b. \$2.50                      c. \$3.00                      d. \$3.50
36. What are transformations? Give some examples.
37. If two lines in the same plane never intersect, what type of lines are they?
38. Julia wants to create a line parallel to  $\overleftrightarrow{AB}$  through point C. What is the first step that Julia should do?  
 a. Draw a line segment through point C.  
 b. Draw a line segment connecting points B and C.  
 c. Create an arc from point C through  $\overleftrightarrow{AB}$ .  
 d. Create an arc through point C from points A and B.
39. The second hand on a clock moves from 5 seconds to 20 seconds. What type of transformation has occurred?  
 a. dilation                      b. translation                      c. reflection                      d. rotation
40. The point (3, 4) is reflected across the x-axis, then translated 3 units left. What is the new coordinate?  
 a. (0, -4)                      b. (-3, 7)                      c. (0, 4)                      d. (-7, 4)
41. Point H at coordinate (-1, 4) is rotated  $90^\circ$  counterclockwise. What is the new coordinate of point H?
42. Explain the difference between congruent figures and similar figures.
43. Fill in the blanks with *reduced*, *enlarged*, or *congruent*:  
 If the scale factor is equal to one, the figure is \_\_\_\_\_.  
 If the scale factor is less than one, the figure is \_\_\_\_\_.  
 If the scale factor is greater than one, the figure is \_\_\_\_\_.

44. Chris casts a 10 ft long shadow. He is standing next to a building that is 27 ft tall and casts a shadow that is 45 ft long. How tall is Chris?
45. A triangle has an area of 4 square cm and a similar triangle has an area of 36 square cm. What is the scale factor for these similar triangles?
46. Solve  $2x - 12 = -36$
47. If  $y = 15$  and  $x = 6$ , using an inverse proportion, what is the value of  $y$  when  $x = 18$ ?
48.  $y$  varies directly with  $x$ . If  $y = 6$  and  $x = 2$ , what is the value of  $y$  when  $x = 5$ ?
49. Alex rides his from school to home in 30 minutes traveling 20 mph. Today he needs to get home 5 minutes faster. How fast must he ride his bike?
50. A photograph measuring 5 inches wide and 7 inches long is enlarged to make a wall mural. The mural is 60 inches wide. How long is the mural?