

NAME

Answer Key

DATE

PERIOD

all

## Study Guide for Test 6

(Put work on another sheet of paper.)

1. Write  $\left(\frac{1}{9}\right)^3$  as a product of the same factor. Then find the value.

$$\frac{1}{9} \times \frac{1}{9} \times \frac{1}{9}$$

1.  $\frac{1}{729}$

2. Write  $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$  using an exponent.

$$4^8$$

2. ~~65536~~

Find the value of each expression.

3.  $8 + 17 - 5 \times 3$

$$7 + 23 \times 10$$

$$9 + 16 \div 8 \times 3$$

3.  $10$

4.  $7 + (2^4 + 7) \times 10$

$$7 + 230$$

$$9 + 2 \times 3$$

4.  $237$

5.  $3^2 \times 5 - 3 \times 2$

$$9 \times 5 - 3 \times 2$$

$$\frac{9+6}{15}$$

5.  $39$

6.  $9 + 4^2 \div 8 \times 3$

$$45 - 6$$

$$8 + 17 - 15$$

$$25 - 6$$

6.  $15$

7. Elisa purchased 5 balls of yarn for \$5.35 each and 9 jars of glue for \$3.45 each.

Write an expression for the total cost of the supplies. Then find the total cost.

$$5 \times 5.35 + 9 \times 3.45$$

7.  $\$57.80$

Evaluate each expression if  $x = 2$ ,  $y = \frac{3}{5}$ , and  $z = 5$ ?

8.  $3z + 4$

$$3(5) + 4 = 19$$

8.  $19$

9.  $5x + 2z$

$$5(2) + 2(5) = 20$$

9.  $20$

10.  $x^2 + 5y \div z$

$$2^2 + 5\left(\frac{3}{5}\right) \div 5$$

$$4 + \frac{3}{5}$$

10.  $4\frac{3}{5}$

11. Kenichi took \$72 to a concert. If he paid for 5 tickets that each cost  $d$  dollars, he will have  $72 - 5d$  left. How much does he have left if the tickets cost \$12.65 each?

$$72 - 5d$$

$$72 - 5(12.65) = 72 - 63.25$$

11.  $\$8.75$

Write each phrase as an algebraic expression.

12. one fourth the amount of salt

$$s = \text{salt}$$

12.  $\frac{1}{4}s$  or  $\frac{s}{4}$

13. 30 seconds slower than Godfrey's time

$$x = \text{Godfrey's time}$$

13.  $x - 30$

14. three pretzels more than twice the number of pretzels

$$p = \# \text{ of pretzels}$$

14.  $2p + 3$

15. eight centimeters less than three times the height

$$h = \text{height}$$

15.  $3h - 8$

16. Alexia used three reams of paper in her first semester of school. Each ream has the same number of sheets. She used another 40 sheets after that. Write an expression to represent the total number of sheets Alexia used.

$$r = \text{ream}$$

16.  $3r + 40$

17. Lester divided his grapes evenly among himself and four friends. Write an expression to represent the number of grapes each person received.

$$g = \text{grapes}$$

17.  $\frac{g}{5}$  or  $g \div 5$

# STUDY GUIDE for CHAPTER 6 *(continued)*

Determine whether the two expressions are equivalent. If so, tell what property is applied. If not, explain why.

18.  $18 \times 1 = 18$

19.  $8 + 1.2 = 1.2 + 8$

20.  $10 \div (8 \div 4) = (10 \div 8) \div 4$

21. Sophia played the piano for 18 minutes and 26 minutes last week. Troy played the piano for 14 minutes last week. Use the Associative Property to find the total number of minutes they played.

Find each product mentally. Show the steps you used.

22.  $9 \times 34$

23.  $4 \times 8.2$

Use the Distributive Property to rewrite each algebraic expression.

24.  $3(y + 10)$   $3y + 30$

25.  $13(14 + t)$

26.  $8(a + 4)$

27.  $3(w + 1.6)$

28. Mr. Lang bought a hat and a pair of gloves for each of his 12 grandchildren. The table lists the cost of each item. Use the Distributive Property to find the total amount of money he spent on his grandchildren.

Item	Cost(\$)
Coat	30.00
Gloves	6.49
Hat	8.00

Simplify each expression. *(combine like terms)*

29.  $8x + 6x + 2x$

30.  $4(3x + 7y)$

31.  $12y + 5x + 8y$

Factor the expression. *(find GCF first!)*

32.  $42x + 12y$

33.  $15x + 30y$

18. identity

19. commutative

20. no (division)

21.  $(18+26)+14$   
 $18+(26+14)$   
58mins

22. 306

23. 32.8

24.  $3y + 30$

25.  $182 + 13t$

26.  $8a + 32$

27.  $3w + 4.8$

28.  $12(8+6.49)$   
\$173.88

29.  $16x$

30.  $12x + 28y$

31.  $20y + 5x$

32.  $6(7x+2y)$

33.  $15(x+2y)$