

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.

1. _____

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

2. _____

Find the value of each expression.

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

3. _____

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

4. _____

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

5. _____

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

6. _____

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.

7. _____

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

8. $3z + 4$

8. _____

9. $5x + 2z$

9. _____

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

10. _____

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?

11. _____

Write each phrase as an algebraic expression.

12. one fourth the amount of salt

12. _____

13. 30 seconds slower than Godfrey's time

13. _____

14. three pretzels more than twice the number of pretzels

14. _____

15. eight centimeters less than three times the height

15. _____

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.

16. _____

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

17. _____

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.

18. _____

19. _____

20. _____

21. _____

Find each product mentally. Show the steps you used.

22. 9×34

23. 4×8.2

22. _____

23. _____

Use the Distributive Property to rewrite each algebraic expression.

24. $3(y + 10)$

25. $13(14 + t)$

26. $8(a + 4)$

27. $3(w + 1.6)$

24. _____

25. _____

26. _____

27. _____

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 |

28. _____

Simplify each expression.

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

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

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

29. _____

30. _____

31. _____

Factor the expression.

32. $42x + 12y$

33. $15x + 30y$

32. _____

33. _____