Name_____ Class_____ Date_____

1-2 Practice

Simplify each expression.

1. 4^2

2. 5^3

3. 1^{16}

4. $\left(\frac{5}{6}\right)^2$

5. $(1 + 3)^2$

6. $(0.1)^3$

7. $5 + 3(2)$

8. $\left(\frac{16}{2}\right) - 4(5)$

9. $4^4(5) + 3(11)$

10. $17(2) - 4^2$

11. $\left(\frac{20}{5}\right)^3 - 10(3)^2$

12. $\left(\frac{27-12}{8-3}\right)^3$

13. $(4(5))^3$

14. $2^5 - 4^2 \div 2^2$

15. $\left(\frac{3(6)}{17-5}\right)^4$

Evaluate each expression for $s = 2$ and $t = 5$.

16. $s + 6$

17. $5 - t$

18. $11.5 + s^2$

19. $\frac{s^4}{4} - 17$

20. $3(t)^3 + 10$

21. $s^3 + t^2$

22. $-4(s)^2 + t^3 \div 5$

23. $\left(\frac{s+2}{5t^2}\right)^2$

24. $\left(\frac{3s(3)}{11-5(t)}\right)^2$

25. Every weekend, Morgan buys interesting clothes at her local thrift store and then resells them on an auction website. If she brings \$150.00 and spends s, write an expression for how much change she has. Evaluate your expression for s = \$27.13 and s = \$55.14.

Name_____ Class _____ Date _____

1-2 Practice (continued)

26. A bike rider is traveling at a speed of 15 feet per second. Write an expression for the distance the rider has traveled after s seconds. Make a table that records the distance for 3.0, 5.8, 11.1, and 14.0 seconds.

Simplify each expression.

27. $4[(12 + 5) - 4^4]$

28. $3[(4 - 6)^2 + 7]^2$

29. $2.5[13 - \left(\frac{36}{6}\right)^2]$

30. $[(48 \div 8)^3 - 7]^3$

31. $\left(\frac{4(-4)(3)}{11 - 5(1)}\right)^3$

32. $4[11 - (55 - 3^5) \div 3]$

33. a. If the tax that you pay when you purchase an item is 12% of the sale price, write an expression that gives the tax on the item with a price p. Write another expression that gives the total price of the item, including tax.

b. What operations are involved in the expressions you wrote?

c. Determine the total price, including tax, of an item that costs $75.

d. Explain how the order of operations helped you solve this problem.

34. The cost to rent a hall for school functions is $60 per hour. Write an expression for the cost of renting the hall for h hours. Make a table to find how much it will cost to rent the hall for 2, 6, 8, and 10 hours.

Evaluate each expression for the given values of the variables.

35. $4(c + 5) - f^4$; $c = -1, f = 4$

36. $-3[(w - 6)^2 + x]^2$; $w = 5, x = 6$

37. $3.5[h^3 - \left(\frac{3j}{6}\right)^2]$; $h = 3, j = -4$

38. $x[y^2 - (55 - y^5) \div 3]$; $x = -6, y = 6$