Name _____ Date _____ Class _____

Order of Operation Review

Simplify each expression.

1. $42 - 3 \times 10 + 2$

2. $1 + 4^3 - 16$

3. $(15 - 6) \times 2 + 20$

4. $(5^2 + 3^2 + 2) \div 6$

5. $61 - 5 \times 2^3 + 5$

6. $7 \times 8 + (2 \times 4) \div 2^2$

Add parentheses so that each equation is correct.

7. $12 - 3 \times 2 + 4^2 = 34$

8. $72 \div 2 \times 4 \div 3 = 3$

9. $13 + 7 - 6 + 4 \times 2 = 0$

10. $28 \div 7 + 3^3 - 3^2 - 1 = 21$

Use each of the numbers 2, 3, 4, and 6 once to make each equation correct.

11. (_____ − _____) + _____ × _____ = 11

12. _____ × _____ − (_____ ÷ _____) = 6

13. _____ + (_____ × _____) × _____ = 30

14. _____ ÷ _____ + _____ × _____ = 20

15. Use an exponent to write an expression with five 3s that has a value of 0.

16. Mrs. Thompson is putting new tile on her bathroom floor. Each tile measures 2 inches on each side. The bathroom floor is 3 feet long and 2 feet wide. How many tiles will she use to cover the entire floor?

2

Name _____ Date _____ Class _____

Order of Operation Review

Simplify each expression.

1. $10 + 6 \times 2$ _____

2. $(15 + 39) \div 6$ _____

3. $(20 - 15) \times 2 + 1$ _____

4. $(4^2 + 6) \div 11$ _____

5. $9 + (7 - 1) \times 2$ _____

6. $(2 \times 4) + 8 - (5 \times 3)$ _____

7. $5 + 18 \div 3^2 - 1$ _____

8. $8 + 5 \times 10 - 12$ _____

9. $14 + (50 - 7^2) \times 3$ _____

Add parentheses so that each equation is correct.

10. $7 + 9 \times 3 - 1 = 25$ _____

11. $2^3 - 7 \times 4 = 4$ _____

12. $5 + 6 \times 9 \div 3 = 23$ _____

13. $12 \div 3 \times 2 = 2$ _____

14. $8 + 3 \times 6 - 4 - 1 = 13$ _____

15. $4 \times 3^2 + 1 = 40$ _____

16. $9 \times 0 + 5 - 3 = 42$ _____

17. $15 \times 3^2 - 2^3 = 15$ _____

18. $14 \div 2 + 5 \times 5 = 10$ _____

19. Tyler walked 2 miles a day for the first week of his exercise plan. Then he walked 3 miles a day for the next 9 days. How many miles did Tyler walk in all?

_____

20. Paulo's father bought 8 pizzas and 12 bottles of juice for the class party. Each pizza cost $9 and each bottle of juice cost $2. Paulo's father paid with a $100-bill. How much change did he get back?

_____

LESSON 1.4

Name _____ Date _____

Practice A

For use with pages 18–23

Evaluate the power.

1. 2^4
2. 3^3
3. 10^2

Complete the statement.

4. Parentheses, brackets, and ___?___ are grouping symbols.

For each expression, identify the operation that is performed first.

5. $4 + 3 \cdot 5$
6. $\frac{9 + 7}{2}$
7. $(12 + 6) \div 6$

For each expression, identify the operation that is performed last.

8. $8(11 - 6)$
9. $3 + 4^2$
10. $\frac{10}{5 - 3}$

Evaluate the expression.

11. $8 + 7 \cdot 4$
12. $10 - 3 + 6 - 2$
13. $6 + 8 \div 2$
14. $6(14 - 1)$
15. $(6 - 2^2)(1 + 7)$
16. $\frac{18 - 6}{3}$
17. $16 + 3^3$
18. $40 - 6^2 + 7$
19. $24 \div 2^2$

Evaluate the expression when $a = 12$ and $b = 5$.

20. $15 \div b + a$
21. $a - 20 \div b$
22. $b^2 - a + 2$

23. The number system we use is called the base-ten system. One of the properties of this system is that a number can be written in an expanded notation that uses powers of ten. The number below is written in expanded notation. Evaluate the expression. What is the number?

$$5 \times 10^3 + 8 \times 10^2 + 3 \times 10^1 + 7$$

24. Your local cable television company charges a one-time $50 hookup fee and then charges $45 per month for extended basic cable service. Write and evaluate an expression to find the cost of getting cable for the first year.

25. Entrance to a popular amusement park costs $40 for a person who is 4 feet tall or taller and $20 for a person who is shorter than 4 feet. Write and evaluate an expression to determine the total cost for the following group to enter the park: 5 people who are over 4 feet tall and 3 people who are under 4 feet tall.

LESSON 1-4

Practice C

Order of Operations

Simplify each expression.

1. $25 \cdot 3 + 60 \cdot 2$ _____
2. $350 \div 5 + 12 \cdot 7$ _____
3. $3 \cdot 9 + 96 \div 4$ _____
4. $77 - 42 \div 7^1$ _____
5. $532 - 2^5 \div 4$ _____
6. $3(20 - 4^2) + 7$ _____
7. $270 \div 6 + 6^2$ _____
8. $(5 + 6)^2 + 18 \div 2$ _____
9. $10^2 - 25 \cdot 3 \div 5$ _____
10. $65 - 4^3 \cdot 1^7$ _____
11. $40 - (5 \cdot 2) + 8$ _____
12. $(6^2 + 4) \div 5$ _____
13. $2^4 \div 8 + 5$ _____
14. $(1 + 2)^2 \cdot (3 - 1)^2 \div 2$ _____
15. $(16 \div 4) + 4 \cdot (2^2 - 2)$ _____

Insert grouping symbols to make each statement true.

16. $18 + 2 \cdot 1 + 3^2 = 38$ _____
17. $4 \cdot 2 - 2^2 \div 9 + 2 = 6$ _____
18. $3^3 - 9 \cdot 2 + 1 = 8$ _____
19. $2^3 - 3 \cdot 5 - 8 = 1$ _____
20. $35 + 4^2 - 6 - 3 = 48$ _____
21. $6 \cdot 7 - 3 \cdot 4 + 1 = 27$ _____

22. A group of students charges $7 to clean the exterior and $6 to clean the interior of a car. They clean 9 exteriors and 5 interiors. Simplify the expression $7 \cdot 9 + 6 \cdot 5$ to find out how much money the students raised in all.

_____

23. Ariel has $65. She buys 5 books that cost $8.00 each, a bookmark that costs $2.00, and a magazine that costs $4.00. Simplify the expression $65 - (5 \cdot 8 + 2 + 4)$ to find out how much money Ariel has left.

_____

LESSON 1-4

Puzzles, Twisters & Teasers

Is Everything in Order?

What's the last thing you take off before you go to bed?

Decide whether each statement below is true or false. Use your answers to solve the riddle.

1. A numerical expression is made up of numbers and operations.

   T **F** T → Y F → M

2. In mathematics, as in life, tasks may be done in any order.

   T **F** T → C F → O

3. When using the order of operations, you should do division after subtraction.

   T **F** T → G F → U

4. When using the order of operations, you should subtract and add from left to right.

   T **F** T → R F → A

5. When using the order of operations, you should divide and multiply from right to left.

   T **F** T → K F → F

6. When an expression has a set of grouping symbols within a second set of grouping symbols, you should begin with the innermost set.

   T **F** T → E F → D

7. You should perform operations inside parentheses first.

   T **F** T → T F → I

8. When using the order of operations, you should evaluate the power expression after multiplying and adding.

   T **F** T → B F → H

9. Mathematicians agree on using the order of operations.

   T **F** T → L F → J

You take

___	___	___	___	___	___	___	___	___	___	___	___	___
1	2	3	4	5	6	6	7	2	5	5		

___	___	___	___	___	___	___	___
7	8	6	5	9	2	2	4

LESSON 1.4

Name _____ Date _____

Practice B

For use with pages 18–23

Evaluate the expression.

1. $10 + 6 \cdot 8$
2. $35 - 20 \div 5$
3. $18(11 - 6)$
4. $28 \div (16 - 9)$
5. $\frac{14 + 10}{7 - 4}$
6. $33 \div (3^2 + 2)$
7. $5(7 + 5)^2$
8. $(5 - 3)^3 + 12 \div 4$
9. $11(8 + 3^2) - 15$

Evaluate the expression when $x = 4$, $y = 12$, and $z = 9$.

10. $3xy - 7$
11. $3x^2 + y$
12. $\frac{5y}{x}$
13. $4z^2 - x$
14. $\frac{y - z}{3}$
15. $(y - x)^2 + 14$
16. $\frac{x + y}{z - 5}$
17. $(x^2 - y)(z + 4)$
18. $36 \div z - x$

Match the given expression with the expression that has the same value.

19. $36 - 5^2 + 7$
20. $27 - 2 \cdot 4 + 3$
21. $12(8 - 3)$

A. $2^2 \cdot 8 - 10$

B. $(4^2 + 38) \div 3$

C. $(5 + 3)^2 - 4$

22. Your local phone company offers DSL service for connecting to the Internet. There is a one-time $100 hookup fee and monthly charges are $40 for the service. Write and evaluate an expression to find the cost of getting DSL service for the first year.

23. At the beginning of the workday, a cashier will start out with money in his or her cash register so that change can be made. A cash register contains 50 one-dollar bills, 30 five-dollar bills, and 8 ten-dollar bills. Write and evaluate an expression that will give you the total amount of money in the cash register.

LESSON 1.4

Name _____ Date _____

Practice C

For use with pages 18–23

Evaluate the expression.

1. $2 \cdot 11 \div (14 - 3)$
2. $12(9 - 7)^2$
3. $\frac{4 \cdot 9}{13 - 7}$
4. $(4 + 6)^2 \div 25$
5. $(12 + 8)(7 - 4)^3$
6. $[(7 - 3)^2 + 2] \div 3$
7. $5(18 - 3^2) + 12$
8. $32 \div (11 - 9)^3 - 1$
9. $\frac{28 - 4^2}{1 + 2}$

Evaluate the expression when $x = 5$, $y = 14$, and $z = 6$.

10. $10y - x^2$
11. $3x^2 + 2y$
12. $\frac{5z}{3x}$
13. $4z^2 - x + 3y$
14. $\frac{xz}{y - 8}$
15. $(y - x)^2 + 8z$
16. $\frac{x + y}{z + 13}$
17. $(x^2 - 25)(y + z)$
18. $(xz)^2 + y$

19. Insert grouping symbols into the expression $11 + 3 \cdot 17 - 5$ to make it equal to 47.

20. A place-kicker can score points in three different ways: making a touchdown, kicking a field goal, and kicking the extra point after a touchdown. A touchdown is worth 6 points, a field goal is worth 3 points, and an extra point is worth 1 point. If a place-kicker scored 6 touchdowns, 33 extra points, and 18 field goals in one season, how many points did the player score for the season?

21. Choose the two expressions that, when evaluated, use the same operations in the same order.

    A. $(8 - 2)^2 \div (8 + 4)$

    B. $\frac{34 - 2^2}{3 + 7}$

    C. $(30 - 4^2) \div (5 + 2)$