1-2 Practice

Order of Operations

Evaluate each expression.

1. 11^2

2. 8^3

3. 5^4

4. $(15 - 5) \cdot 2$

5. $9 \cdot (3 + 4)$

6. $5 + 7 \cdot 4$

7. $4(3 + 5) - 5 \cdot 4$

8. $22 \div 11 \cdot 9 - 3^2$

9. $6^2 + 3 \cdot 7 - 9$

10. $3[10 - (27 \div 9)]$

11. $2[5^2 + (36 \div 6)]$

12. $162 \div [6(7 - 4)^2]$

13. $\dfrac{5^2 \cdot 4 - 5 \cdot 4^2}{5(4)}$

14. $\dfrac{(2 \cdot 5)^2 + 4}{3^2 - 5}$

15. $\dfrac{7 + 3^2}{4^2 \cdot 2}$

Evaluate each expression if $a = 12$, $b = 9$, and $c = 4$.

16. $a^2 + b - c^2$

17. $b^2 + 2a - c^2$

18. $2c(a + b)$

19. $4a + 2b - c^2$

20. $(a^2 \div 4b) + c$

21. $c^2 \cdot (2b - a)$

22. $\dfrac{bc^2 + a}{c}$

23. $\dfrac{2c^3 - ab}{4}$

24. $2(a - b)^2 - 5c$

25. $\dfrac{b^2 - 2c^2}{a + c - b}$

26. **CAR RENTAL** Ann Carlyle is planning a business trip for which she needs to rent a car. The car rental company charges $36 per day plus $0.50 per mile over 100 miles. Suppose Ms. Carlyle rents the car for 5 days and drives 180 miles.

   a. Write an expression for how much it will cost Ms. Carlyle to rent the car.

   b. Evaluate the expression to determine how much Ms. Carlyle must pay the car rental company.

27. **GEOMETRY** The length of a rectangle is $3n + 2$ and its width is $n - 1$. The perimeter of the rectangle is twice the sum of its length and its width.

   a. Write an expression that represents the perimeter of the rectangle.

   b. Find the perimeter of the rectangle when $n = 4$ inches.

1-2 Skills Practice

Order of Operations

Evaluate each expression.

1. 8^2

2. 3^4

3. 5^3

4. 3^3

5. $(5 + 4) \cdot 7$

6. $(9 - 2) \cdot 3$

7. $4 + 6 \cdot 3$

8. $12 + 2 \cdot 2$

9. $(3 + 5) \cdot 5 + 1$

10. $9 + 4(3 + 1)$

11. $30 - 5 \cdot 4 + 2$

12. $10 + 2 \cdot 6 + 4$

13. $14 \div 7 \cdot 5 - 3^2$

14. $4[30 - (10 - 2) \cdot 3]$

15. $5 + [30 - (6 - 1)^2]$

16. $2[12 + (5 - 2)^2]$

Evaluate each expression if $x = 6$, $y = 8$, and $z = 3$.

17. $xy + z$

18. $yz - x$

19. $2x + 3y - z$

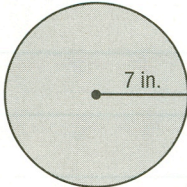20. $2(x + z) - y$

21. $5z + (y - x)$

22. $5x - (y + 2z)$

23. $x^2 + y^2 - 10z$

24. $z^3 + (y^2 - 4x)$

25. $\dfrac{y + xz}{2}$

26. $\dfrac{3y + x^2}{z}$

Lesson 1-2

1-2　Word Problem Practice

Order of Operations

1. **SCHOOLS** Jefferson High School has 100 less than 5 times as many students as Taft High School. Write and evaluate an expression to find the number of students at Jefferson High School if Taft High School has 300 students.

2. **GEOGRAPHY** Guadalupe Peak in Texas has an altitude that is 671 feet more than double the altitude of Mount Sunflower in Kansas. Write and evaluate an expression for the altitude of Guadalupe Peak if Mount Sunflower has an altitude of 4039 feet.

3. **TRANSPORTATION** The Plaid Taxi Cab Company charges $1.75 per passenger plus $3.45 per mile for trips less than 10 miles. Write and evaluate an expression to find the cost for Max to take a Plaid taxi 8 miles to the airport.

4. **GEOMETRY** The area of a circle is related to the radius of the circle such that the product of the square of the radius and a number π gives the area. Write and evaluate an expression for the area of a circular pizza below. Approximate π as 3.14.

7 in.

5. **BIOLOGY** Lavania is studying the growth of a population of fruit flies in her laboratory. She notices that the number of fruit flies in her experiment is five times as large after any six-day period. She observes 20 fruit flies on October 1. Write and evaluate an expression to predict the population of fruit flies Lavania will observe on October 31.

6. **CONSUMER SPENDING** During a long weekend, Devon paid a total of x dollars for a rental car so he could visit his family. He rented the car for 4 days at a rate of $36 per day. There was an additional charge of $0.20 per mile after the first 200 miles driven.

   a. Write an algebraic expression to represent the amount Devon paid for additional mileage only.

   b. Write an algebraic expression to represent the number of miles over 200 miles that Devon drove the rented car.

   c. How many miles did Devon drive overall if he paid a total of $174 for the car rental?