Do You Understand?

1. **Construct Arguments** Why is it important to use the order of operations to evaluate algebraic expressions?

2. **Use Structure** In the problem on the previous page, would it matter if you substituted 4 for $b$ and 8 for $s$? Explain.

Do You Know How?

In 3–6, write an algebraic expression for each situation.

3. The difference of 25 times $j$ minus 50 times $k$

4. 5 divided by the sum of $a$ and $b$

5. $m$ more than the product of $n$ and 7

6. 5 times $p$ less than 9 times $r$

Independent Practice

In 7–12, write an algebraic expression for each situation.

7. The product of 10 times $m$ minus the product of 12 times $n$

8. The quotient if $p$ divided by 9 minus the product of 4 times $q$

9. Twice a number $k$ plus the quantity $s$ minus 2

10. 3 times as much as the total of $a$ apples and $p$ pears

11. Change from $20 after buying $t$ tacos for $2.50 each and $b$ burritos for $4 each

12. The cost of 3 shirts for $b$ dollars each and 2 skirts for $s$ dollars each, after a $5-off coupon

In 13–18, evaluate each expression when $w = 5$, $y = 24$, and $z = 9$.

13. $8w + 4z$

14. $\frac{y}{3} - w$

15. $2y - 3z$

16. $3(w + z)$

17. $w + 2(6z - 24)$

18. $10w + 10(y - 16)$
19. Yuri walked \( p \) poodles and \( b \) bulldogs on Monday. He walked the same number of poodles and bulldogs each day Tuesday through Friday.

   a Write an algebraic expression to represent how many total dogs were walked in this 5-day period.

   b Evaluate the expression you wrote to find how many dogs were walked during the week if Yuri walked 7 poodles and 4 bulldogs on Monday.

20. The number of hours Alex spent practicing piano each week for two months are listed below. What are the mean, median, and mode of the data?

   \[ 9, 7, 8, 9, 10, 5, 9, 8, 7 \]

21. Higher Order Thinking  Sam rides her bike to school. Some days she comes home directly. Other days she goes from school to the mall and then home from the mall.

   a How many more meters does Sam ride if she goes from school to the mall and then home than from school to home?

   b Write an algebraic expression to represent how far Sam rides her bike if she rides to school 5 times, directly home \( n \) times, and from school to the mall and then home \( m \) times.

   c Evaluate the expression to find the total distance Sam rode if she went directly home 3 times and home by way of the mall 2 times.

22. Which algebraic expression could represent the phrase below?

   25 less than 7 times \( n \) plus 9 times \( m \)

   A  \( 25 - 7n + 9m \)
   B  \( 25 - (7n + 9m) \)
   C  \( 7n + 9m - 25 \)
   D  \( 7(n + 9m - 25) \)

23. Which expression has a value of 9?

   A  \( 20 + 3p + 4q \) when \( p = 6 \) and \( q = 2 \)
   B  \( 3(5j - \frac{k}{2}) \) when \( j = 3 \) and \( k = 24 \)
   C  \( \frac{m}{3} + \frac{n}{7} \) when \( m = 18 \) and \( n = 28 \)
   D  \( 2(4a - 5b) \) when \( a = 2 \) and \( b = 1 \)