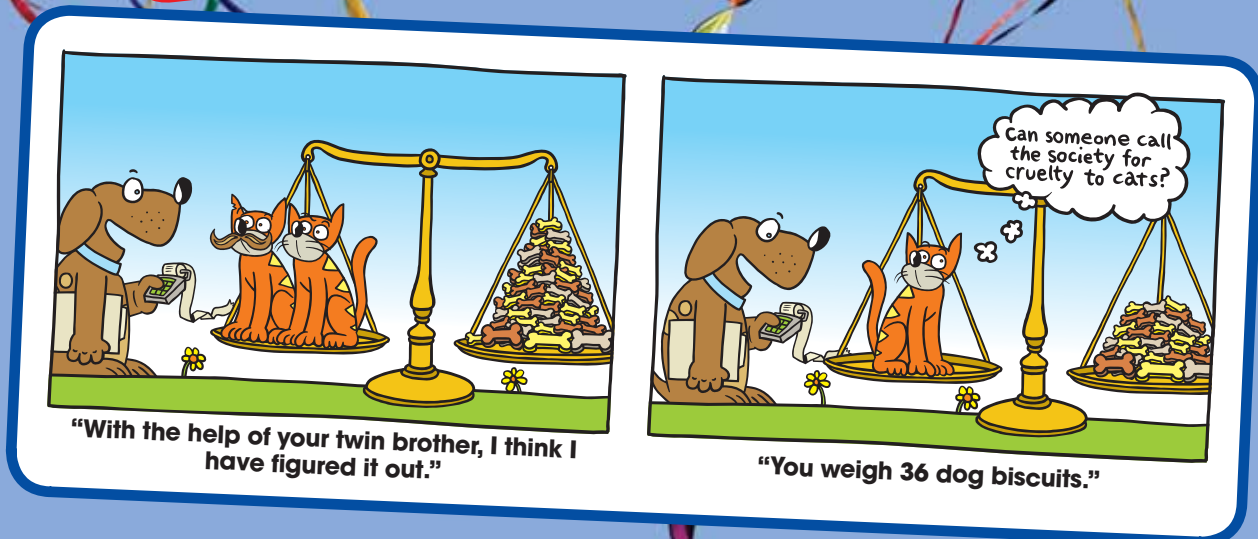


7 Equations

- 7.1 Writing Equations in One Variable
- 7.2 Solving Equations Using Addition or Subtraction
- 7.3 Solving Equations Using Multiplication or Division
- 7.4 Solving Two-Step Equations
- 7.5 Finding Dimensions of Plane Figures
- 7.6 Finding Dimensions of Prisms



What You Learned Before

Evaluating Expressions

Example 1 Evaluate $7x + 3y$ when $x = 2$ and $y = 4$.

$$\begin{aligned}7x + 3y &= 7 \cdot 2 + 3 \cdot 4 \\ &= 14 + 12 \\ &= 26\end{aligned}$$

Substitute 2 for x and 4 for y .

Using order of operations, multiply from left to right.

Add 14 and 12.

Example 2 Evaluate $5x^2 - 2(y + 1) + 9$ when $x = 2$ and $y = 1$.

$$\begin{aligned}5x^2 - 2(y + 1) + 9 &= 5(2)^2 - 2(1 + 1) + 9 \\ &= 5(2)^2 - 2 \cdot 2 + 9 \\ &= 5 \cdot 4 - 2 \cdot 2 + 9 \\ &= 20 - 4 + 9 \\ &= 25\end{aligned}$$

Substitute 2 for x and 1 for y .

Using order of operations, evaluate within the parentheses.

Using order of operations, evaluate the exponent.

Using order of operations, multiply from left to right.

Subtract 4 from 20. Add the result to 9.

Try It Yourself

Evaluate the expression when $a = \frac{1}{2}$ and $b = 7$.

1. $6ab$

2. $16a - b$

3. $3b - 2a - 9$

4. $b^2 - 16a + 5$

Writing Expressions

Example 3 Write the phrase as an expression.

a. the sum of twice a number n and five

$$2n + 5$$

b. twelve less than four times a number y

$$4y - 12$$

Try It Yourself

Write the phrase as an expression.

5. six more than three times a number w

6. the quotient of seven and a number p

7. two less than a number t

8. the product of a number x and five

9. five more than six divided by a number r

10. four less than three times a number b

