

SECTION

1B

Ready to Go On? Skills Intervention**1-10 Solving Equations by Dividing**

Division and multiplication are inverse operations. To solve an equation that contains multiplication, you can use division to “undo” the multiplication.

Solving Equations by Dividing

Solve the equation. Check your answer.

A. $9y = 27$

$9y = 27$

$$\frac{9y}{9} = \frac{27}{9}$$

$$\frac{9y}{9} = \frac{27}{9}$$

$y = \underline{\quad}$

What number is multiplied by y ? _____

What operation will you perform to “undo” the multiplication? _____

Divide.

Check: $9y = 27$

$9 \underline{\quad} \stackrel{?}{=} 27$

$27 \stackrel{?}{=} 27$

What number will you substitute into the equation for y ?

Are the two numbers equal? _____
_____ is the solution.

B. The area of a rectangle is 56 square centimeters. Its width is 8 centimeters. What is its length? Let ℓ stand for the length.

$\underline{\quad} \ell = 56$

$8\ell = 56$

$$\frac{8\ell}{8} = \frac{56}{8}$$

$$\frac{8\ell}{8} = \frac{56}{8}$$

$\ell = \underline{\quad}$

What equation can you use to find the length?

What number is multiplied by ℓ ? _____

What number will you divide each side by to “undo” the multiplication? _____

Divide.

Check: $8\ell = 56$

$8 \underline{\quad} \stackrel{?}{=} 56$

$56 \stackrel{?}{=} 56$

What number will you substitute into the equation for ℓ ?

Are the two numbers equal? _____
_____ is the solution.

So, the length of the rectangle is _____ centimeters.

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Ready to Go On? Problem Solving Intervention**1-10 Solving Equations by Dividing**

You can write an equation to model a multiplication situation.

On a field trip, there must be at least 1 adult for every 6 students.

How many adults are needed if there are 33 students?

Understand the Problem

1. If there were 12 students, how many adults would be needed? _____

Make a Plan

2. Why could you use an equation with multiplication to model the situation described in the problem?

Solve

3. Suppose you let a stand for the number of adults and s for the number of students. Why would the equation $a = 6s$ *not* model the situation of 1 adult for every 6 students?

4. Write an equation using the variables a and s that does model 1 adult for every 6 students. _____

5. Write and solve the equation for $s = 33$. _____

Check

6. Look back at the question being asked and answer it.

Write and solve an equation to solve each problem.

7. For an evening concert, there must be at least 1 adult for every 32 students. How many adults are needed if all 649 students in the school attend?

8. If you multiply a number by 7 and then by 11 and then by 13, you get 123,123. What is the number?
