LARSON ALGEBRA 2
CHAPTER 1, LESSON 3, EXTRA EXAMPLES

Extra Example 1 Solving an Equation with a Variable on One Side

Solve $\frac{2}{9}x + 8 = 16$.

SOLUTION

Your goal is to isolate the variable on one side of the equation.

$\frac{2}{9}x + 8 = 16$	Write original equation.
$\frac{2}{9}x = 8$	Subtract 8 from each side.
$x = \frac{9}{2}(8)$	Multiply each side by $\frac{9}{2}$, the reciprocal of $\frac{2}{9}$.
$x = 36$	Simplify.

▶ The solution is 36.

Check : Check $x = 36$ in the original equation.

$\frac{2}{9}(\mathbf{36}) + 8 = 16$	Substitute **36** for x.
$16 = 16$ ✓	Solution checks.

Extra Example 2 Solving an Equation with a Variable on Both Sides

Solve $12n - 3 = 4n + 21$.

SOLUTION

$12n - 3 = 4n + 21$	Write original equation.
$8n - 3 = 21$	Subtract $4n$ from each side.
$8n = 24$	Add 3 to each side.
$n = 3$	Divide each side by 8.

▶ The solution is 3. Check this in the original equation.