

CHAPTER 4 Equations
4.1 Solve Simple Equations
Solving Two-Step Equations and Checking

Example:

a) Solve the equation $3x + 4 = 16$.

b) Solve the equation $5z - 3 = 7$. Check your solution.

Solution:

a) $3x + 4 = 16$ Subtract 4 from both sides.

$$3x + 4 - 4 = 16 - 4$$

$$3x = 12$$
 Divide both sides by 3.

$$\frac{3x}{3} = \frac{12}{3}$$

$$x = 4$$

The solution is $x = 4$.

b) $5z - 3 = 7$ Add 3 to both sides.

$$5z - 3 + 3 = 7 + 3$$

$$5z = 10$$
 Divide both sides by 5.

$$\frac{5z}{5} = \frac{10}{5}$$

$$z = 2$$

Check: Substitute $z = 2$.

$$\text{L.S.} = 5z - 3 \quad \text{R.S.} = 7$$

$$= 5(2) - 3$$

$$= 10 - 3$$

$$= 7$$

$$\text{L.S.} = \text{R.S.}$$

Therefore, $z = 2$ is correct.

Practice:

1. Solve: $6x - 1 = 11$.

2. Solve and check: $3y + 5 = -4$.

Answers:

1. $x = 2$ 2. $y = -3$