

Multi-step equations

Solve each equation. Show your working, and write the answer on the line.

Name _____ Date _____

1. $7x + 12 + 3x = 72$

2. $6x - x + 10 = 40$

x = _____

x = _____

3. $14 + 4x + x = 69$

4. $5x + 14 - x = 54$

x = _____

x = _____

5. $7x - 5x + 2 = 10$

6. $20 + 8x - 5x = 47$

x = _____

x = _____

7. $6x + 11 - 3x = 44$

8. $7 + 6x - 2x = 55$

x = _____

x = _____

9. $2 + 5x + x = 26$

10. $11 + 7x - 3x = 51$

x = _____

x = _____

Multi-step equations: answer key

Each equation worked one step a line. What was done to both sides is beside each step.

1. $7x + 12 + 3x = 72$

$10x + 12 = 72$ Combine like terms.

$10x = 60$ Subtract 12 from both sides.

$x = 6$ Divide both sides by 10.

Check: $7(6) + 12 + 3(6) = 72$

2. $6x - x + 10 = 40$

$5x + 10 = 40$ Combine like terms.

$5x = 30$ Subtract 10 from both sides.

$x = 6$ Divide both sides by 5.

Check: $6(6) - 6 + 10 = 40$

3. $14 + 4x + x = 69$

$5x + 14 = 69$ Combine like terms.

$5x = 55$ Subtract 14 from both sides.

$x = 11$ Divide both sides by 5.

Check: $14 + 4(11) + 11 = 69$

4. $5x + 14 - x = 54$

$4x + 14 = 54$ Combine like terms.

$4x = 40$ Subtract 14 from both sides.

$x = 10$ Divide both sides by 4.

Check: $5(10) + 14 - 10 = 54$

5. $7x - 5x + 2 = 10$

$2x + 2 = 10$ Combine like terms.

$2x = 8$ Subtract 2 from both sides.

$x = 4$ Divide both sides by 2.

Check: $7(4) - 5(4) + 2 = 10$

6. $20 + 8x - 5x = 47$

$3x + 20 = 47$ Combine like terms.

$3x = 27$ Subtract 20 from both sides.

$x = 9$ Divide both sides by 3.

Check: $20 + 8(9) - 5(9) = 47$

7. $6x + 11 - 3x = 44$

$3x + 11 = 44$ Combine like terms.

$3x = 33$ Subtract 11 from both sides.

$x = 11$ Divide both sides by 3.

Check: $6(11) + 11 - 3(11) = 44$

8. $7 + 6x - 2x = 55$

$4x + 7 = 55$ Combine like terms.

$4x = 48$ Subtract 7 from both sides.

$x = 12$ Divide both sides by 4.

Check: $7 + 6(12) - 2(12) = 55$

9. $2 + 5x + x = 26$

$6x + 2 = 26$ Combine like terms.

$6x = 24$ Subtract 2 from both sides.

$x = 4$ Divide both sides by 6.

Check: $2 + 5(4) + 4 = 26$

10. $11 + 7x - 3x = 51$

$4x + 11 = 51$ Combine like terms.

$4x = 40$ Subtract 11 from both sides.

$x = 10$ Divide both sides by 4.

Check: $11 + 7(10) - 3(10) = 51$