

Solving Multi-Step Equations

Date: _____

Take each equation.

1) $2x + 3 = 15$

$$\begin{array}{r} 2x + 3 = 15 \\ -3 \\ \hline 2x = 12 \\ \div 2 \\ \hline x = 6 \end{array}$$

check:
 $2(6) + 3 = 15$
 $12 + 3 = 15$
 $15 = 15$

2) $3x - 5 = 10$

$$\begin{array}{r} 3x - 5 = 10 \\ +5 \\ \hline 3x = 15 \\ \div 3 \\ \hline x = 5 \end{array}$$

check:
 $3(5) - 5 = 10$
 $15 - 5 = 10$
 $10 = 10$

3) $4x + 7 = 25$

$$\begin{array}{r} 4x + 7 = 25 \\ -7 \\ \hline 4x = 18 \\ \div 4 \\ \hline x = 4.5 \end{array}$$

check:
 $4(4.5) + 7 = 25$
 $18 + 7 = 25$
 $25 = 25$

4) $5x - 2 = 18$

$$\begin{array}{r} 5x - 2 = 18 \\ +2 \\ \hline 5x = 20 \\ \div 5 \\ \hline x = 4 \end{array}$$

check:
 $5(4) - 2 = 18$
 $20 - 2 = 18$
 $18 = 18$

5) $6x + 1 = 13$

$$\begin{array}{r} 6x + 1 = 13 \\ -1 \\ \hline 6x = 12 \\ \div 6 \\ \hline x = 2 \end{array}$$

check:
 $6(2) + 1 = 13$
 $12 + 1 = 13$
 $13 = 13$

6) $7x - 4 = 21$

$$\begin{array}{r} 7x - 4 = 21 \\ +4 \\ \hline 7x = 25 \\ \div 7 \\ \hline x = 3.57 \end{array}$$

check:
 $7(3.57) - 4 = 21$
 $25 - 4 = 21$
 $21 = 21$

7) $8x + 3 = 27$

$$\begin{array}{r} 8x + 3 = 27 \\ -3 \\ \hline 8x = 24 \\ \div 8 \\ \hline x = 3 \end{array}$$

check:
 $8(3) + 3 = 27$
 $24 + 3 = 27$
 $27 = 27$

8) $9x - 1 = 17$

$$\begin{array}{r} 9x - 1 = 17 \\ +1 \\ \hline 9x = 18 \\ \div 9 \\ \hline x = 2 \end{array}$$

check:
 $9(2) - 1 = 17$
 $18 - 1 = 17$
 $17 = 17$

9) $10x + 5 = 35$

$$\begin{array}{r} 10x + 5 = 35 \\ -5 \\ \hline 10x = 30 \\ \div 10 \\ \hline x = 3 \end{array}$$

check:
 $10(3) + 5 = 35$
 $30 + 5 = 35$
 $35 = 35$

10) $11x - 3 = 25$

$$\begin{array}{r} 11x - 3 = 25 \\ +3 \\ \hline 11x = 28 \\ \div 11 \\ \hline x = 2.54 \end{array}$$

check:
 $11(2.54) - 3 = 25$
 $28 - 3 = 25$
 $25 = 25$