

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) $4x + 7 = 21$

$$\begin{array}{r} 4x + 7 = 21 \\ -7 \\ \hline 4x = 14 \\ \div 4 \\ \hline x = 3.5 \end{array}$$

check:
 $4(3.5) + 7 = 21$
 $14 + 7 = 21$
 $21 = 21$

4) $2x - 1 = 9$

$$\begin{array}{r} 2x - 1 = 9 \\ +1 \\ \hline 2x = 10 \\ \div 2 \\ \hline x = 5 \end{array}$$

check:
 $2(5) - 1 = 9$
 $10 - 1 = 9$
 $9 = 9$

5) $5x + 2 = 17$

$$\begin{array}{r} 5x + 2 = 17 \\ -2 \\ \hline 5x = 15 \\ \div 5 \\ \hline x = 3 \end{array}$$

check:
 $5(3) + 2 = 17$
 $15 + 2 = 17$
 $17 = 17$

6) $3x - 4 = 8$

$$\begin{array}{r} 3x - 4 = 8 \\ +4 \\ \hline 3x = 12 \\ \div 3 \\ \hline x = 4 \end{array}$$

check:
 $3(4) - 4 = 8$
 $12 - 4 = 8$
 $8 = 8$

7) $2x + 5 = 11$

$$\begin{array}{r} 2x + 5 = 11 \\ -5 \\ \hline 2x = 6 \\ \div 2 \\ \hline x = 3 \end{array}$$

check:
 $2(3) + 5 = 11$
 $6 + 5 = 11$
 $11 = 11$

8) $4x - 3 = 13$

$$\begin{array}{r} 4x - 3 = 13 \\ +3 \\ \hline 4x = 16 \\ \div 4 \\ \hline x = 4 \end{array}$$

check:
 $4(4) - 3 = 13$
 $16 - 3 = 13$
 $13 = 13$

9) $3x + 1 = 10$

$$\begin{array}{r} 3x + 1 = 10 \\ -1 \\ \hline 3x = 9 \\ \div 3 \\ \hline x = 3 \end{array}$$

check:
 $3(3) + 1 = 10$
 $9 + 1 = 10$
 $10 = 10$

10) $2x - 6 = 4$

$$\begin{array}{r} 2x - 6 = 4 \\ +6 \\ \hline 2x = 10 \\ \div 2 \\ \hline x = 5 \end{array}$$

check:
 $2(5) - 6 = 4$
 $10 - 6 = 4$
 $4 = 4$