

Solving Multi-Step Equations

Date: _____

Take each equation.

1) $2x + 3 = 11$

$$\begin{array}{r} 2x + 3 = 11 \\ -3 \\ \hline 2x = 8 \\ \div 2 \\ \hline x = 4 \end{array}$$

check:
 $2(4) + 3 = 11$
 $8 + 3 = 11$
 $11 = 11$

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) $4x + 7 = 19$

$$\begin{array}{r} 4x + 7 = 19 \\ -7 \\ \hline 4x = 12 \\ \div 4 \\ \hline x = 3 \end{array}$$

check:
 $4(3) + 7 = 19$
 $12 + 7 = 19$
 $19 = 19$

4) $2x - 1 = 5$

$$\begin{array}{r} 2x - 1 = 5 \\ +1 \\ \hline 2x = 6 \\ \div 2 \\ \hline x = 3 \end{array}$$

check:
 $2(3) - 1 = 5$
 $6 - 1 = 5$
 $5 = 5$

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) $4x + 1 = 13$

$$\begin{array}{r} 4x + 1 = 13 \\ -1 \\ \hline 4x = 12 \\ \div 4 \\ \hline x = 3 \end{array}$$

check:
 $4(3) + 1 = 13$
 $12 + 1 = 13$
 $13 = 13$

8) $2x - 3 = 7$

$$\begin{array}{r} 2x - 3 = 7 \\ +3 \\ \hline 2x = 10 \\ \div 2 \\ \hline x = 5 \end{array}$$

check:
 $2(5) - 3 = 7$
 $10 - 3 = 7$
 $7 = 7$

9) $5x + 6 = 21$

$$\begin{array}{r} 5x + 6 = 21 \\ -6 \\ \hline 5x = 15 \\ \div 5 \\ \hline x = 3 \end{array}$$

check:
 $5(3) + 6 = 21$
 $15 + 6 = 21$
 $21 = 21$

10) $3x - 2 = 10$

$$\begin{array}{r} 3x - 2 = 10 \\ +2 \\ \hline 3x = 12 \\ \div 3 \\ \hline x = 4 \end{array}$$

check:
 $3(4) - 2 = 10$
 $12 - 2 = 10$
 $10 = 10$