

Solving Multi-Step Equations

Date: _____

Take each equation.

1) $2x + 3 = 11$

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

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

2) $5x - 2 = 18$

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

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

3) $3x + 7 = 22$

$$\begin{array}{r} 3x + 7 = 22 \\ -7 -7 \\ \hline 3x = 15 \\ \div 3 \div 3 \\ \hline x = 5 \end{array}$$

check:
 $3(5) + 7 = 22$
 $15 + 7 = 22$
 $22 = 22$

4) $4x - 5 = 15$

$$\begin{array}{r} 4x - 5 = 15 \\ +5 +5 \\ \hline 4x = 20 \\ \div 4 \div 4 \\ \hline x = 5 \end{array}$$

check:
 $4(5) - 5 = 15$
 $20 - 5 = 15$
 $15 = 15$

5) $2x + 1 = 9$

$$\begin{array}{r} 2x + 1 = 9 \\ -1 -1 \\ \hline 2x = 8 \\ \div 2 \div 2 \\ \hline x = 4 \end{array}$$

check:
 $2(4) + 1 = 9$
 $8 + 1 = 9$
 $9 = 9$

6) $3x - 4 = 14$

$$\begin{array}{r} 3x - 4 = 14 \\ +4 +4 \\ \hline 3x = 18 \\ \div 3 \div 3 \\ \hline x = 6 \end{array}$$

check:
 $3(6) - 4 = 14$
 $18 - 4 = 14$
 $14 = 14$

7) $4x + 2 = 18$

$$\begin{array}{r} 4x + 2 = 18 \\ -2 -2 \\ \hline 4x = 16 \\ \div 4 \div 4 \\ \hline x = 4 \end{array}$$

check:
 $4(4) + 2 = 18$
 $16 + 2 = 18$
 $18 = 18$

8) $5x - 3 = 17$

$$\begin{array}{r} 5x - 3 = 17 \\ +3 +3 \\ \hline 5x = 20 \\ \div 5 \div 5 \\ \hline x = 4 \end{array}$$

check:
 $5(4) - 3 = 17$
 $20 - 3 = 17$
 $17 = 17$

9) $2x + 5 = 13$

$$\begin{array}{r} 2x + 5 = 13 \\ -5 -5 \\ \hline 2x = 8 \\ \div 2 \div 2 \\ \hline x = 4 \end{array}$$

check:
 $2(4) + 5 = 13$
 $8 + 5 = 13$
 $13 = 13$

10) $3x - 1 = 11$

$$\begin{array}{r} 3x - 1 = 11 \\ +1 +1 \\ \hline 3x = 12 \\ \div 3 \div 3 \\ \hline x = 4 \end{array}$$

check:
 $3(4) - 1 = 11$
 $12 - 1 = 11$
 $11 = 11$