

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) $2x + 1 = 11$

$$\begin{array}{r} 2x + 1 = 11 \\ -1 \\ \hline 2x = 10 \\ \div 2 \\ \hline x = 5 \end{array}$$

check:
 $2(5) + 1 = 11$
 $10 + 1 = 11$
 $11 = 11$

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) $4x + 5 = 21$

$$\begin{array}{r} 4x + 5 = 21 \\ -5 \\ \hline 4x = 16 \\ \div 4 \\ \hline x = 4 \end{array}$$

check:
 $4(4) + 5 = 21$
 $16 + 5 = 21$
 $21 = 21$

8) $5x - 3 = 12$

$$\begin{array}{r} 5x - 3 = 12 \\ +3 \\ \hline 5x = 15 \\ \div 5 \\ \hline x = 3 \end{array}$$

check:
 $5(3) - 3 = 12$
 $15 - 3 = 12$
 $12 = 12$

9) $2x + 6 = 14$

$$\begin{array}{r} 2x + 6 = 14 \\ -6 \\ \hline 2x = 8 \\ \div 2 \\ \hline x = 4 \end{array}$$

check:
 $2(4) + 6 = 14$
 $8 + 6 = 14$
 $14 = 14$

10) $3x - 1 = 10$

$$\begin{array}{r} 3x - 1 = 10 \\ +1 \\ \hline 3x = 11 \\ \div 3 \\ \hline x = 3.67 \end{array}$$

check:
 $3(3.67) - 1 = 10$
 $11.01 - 1 = 10$
 $10 = 10$