

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) $3x - 2 = 10$

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

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

3) $4x + 5 = 21$

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

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

4) $2x - 1 = 7$

$$\begin{array}{r} 2x - 1 = 7 \\ +1 \\ \hline 2x = 8 \\ \div 2 \\ \hline x = 4 \end{array}$$

check:
 $2(4) - 1 = 7$
 $8 - 1 = 7$
 $7 = 7$

5) $3x + 2 = 14$

$$\begin{array}{r} 3x + 2 = 14 \\ -2 \\ \hline 3x = 12 \\ \div 3 \\ \hline x = 4 \end{array}$$

check:
 $3(4) + 2 = 14$
 $12 + 2 = 14$
 $14 = 14$

6) $4x - 3 = 9$

$$\begin{array}{r} 4x - 3 = 9 \\ +3 \\ \hline 4x = 12 \\ \div 4 \\ \hline x = 3 \end{array}$$

check:
 $4(3) - 3 = 9$
 $12 - 3 = 9$
 $9 = 9$

7) $2x + 1 = 5$

$$\begin{array}{r} 2x + 1 = 5 \\ -1 \\ \hline 2x = 4 \\ \div 2 \\ \hline x = 2 \end{array}$$

check:
 $2(2) + 1 = 5$
 $4 + 1 = 5$
 $5 = 5$

8) $3x - 4 = 8$

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

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

9) $5x + 3 = 18$

$$\begin{array}{r} 5x + 3 = 18 \\ -3 \\ \hline 5x = 15 \\ \div 5 \\ \hline x = 3 \end{array}$$

check:
 $5(3) + 3 = 18$
 $15 + 3 = 18$
 $18 = 18$

10) $2x - 5 = 1$

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

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