

## Distributive Property and Solving Equations

Solve for  $x$ . Show all your work/steps!!

1.)  $6(5x + 8) = 168$

$$\begin{array}{r} 30x + 48 = 168 \\ -48 \quad -48 \\ \hline 30x = 120 \\ \frac{30}{30} \quad \frac{30}{30} \\ \hline x = 4 \end{array}$$

2.)  $3(6x - 10) = 114$

$$\begin{array}{r} 18x - 30 = 114 \\ +30 \quad +30 \\ \hline 18x = 144 \\ \frac{18}{18} \quad \frac{18}{18} \\ \hline x = 8 \end{array}$$

3.)  $5(2x + 2) = 110$

$$\begin{array}{r} 10x + 10 = 110 \\ -10 \quad -10 \\ \hline 10x = 100 \\ \frac{10}{10} \quad \frac{10}{10} \\ \hline x = 10 \end{array}$$

4.)  $-5(3 + 7x) = 405$

$$\begin{array}{r} -15 + -35x = 405 \\ +15 \quad +15 \\ \hline -35x = 420 \\ \frac{-35}{-35} \quad \frac{420}{-35} \\ \hline x = -12 \end{array}$$

5.)  $3(5x + 7) = 96$

$$\begin{array}{r} 15x + 21 = 96 \\ -21 \quad -21 \\ \hline 15x = 75 \\ \frac{15}{15} \quad \frac{75}{15} \\ \hline x = 5 \end{array}$$

6.)  $5(7x + 8) = 5$

$$\begin{array}{r} 35x + 40 = 5 \\ -40 \quad -40 \\ \hline 35x = -35 \\ \frac{35}{35} \quad \frac{-35}{35} \\ \hline x = -1 \end{array}$$

7.)  $2(6 - 2x) = -16$

$$\begin{array}{r} 12 - 4x = -16 \\ -12 \quad -12 \\ \hline -4x = -28 \\ \frac{-4}{-4} \quad \frac{-28}{-4} \\ \hline x = 7 \end{array}$$

8.)  $-4(2x + 9) = -124$

$$\begin{array}{r} -8x - 36 = -124 \\ +36 \quad +36 \\ \hline -8x = -88 \\ \frac{-8}{-8} \quad \frac{-88}{-8} \\ \hline x = 11 \end{array}$$

9.)  $-7(5 + x) = -56$

$$\begin{array}{r} -35 - 7x = -56 \\ +35 \quad +35 \\ \hline -7x = -21 \\ \frac{-7}{-7} \quad \frac{-21}{-7} \\ \hline x = 3 \end{array}$$

10.)  $-6(5 + 7x) = -156$

$$\begin{array}{r} -30 - 42x = -156 \\ +30 \quad +30 \\ \hline -42x = -126 \\ \frac{-42}{-42} \quad \frac{-126}{-42} \\ \hline x = 3 \end{array}$$

11.)  $3(4 + 2x) = 12$

$$\begin{array}{r} 12 + 6x = 12 \\ -12 \quad -12 \\ \hline 6x = 0 \\ \frac{6}{6} \quad \frac{0}{6} \\ \hline x = 0 \end{array}$$

12.)  $7(1x - 1) = 7$

$$\begin{array}{r} 7x - 7 = 7 \\ +7 \quad +7 \\ \hline 7x = 14 \\ \frac{7}{7} \quad \frac{14}{7} \\ \hline x = 2 \end{array}$$