

Evaluate each expression or function. SHOW YOUR WORK!

1.  $x + 5$  when  $x = -2$

$$\begin{array}{r} -2 + 5 \\ 3 \end{array}$$

2.  $2p - 8$  when  $p = 4$

$$\begin{array}{r} 2(4) - 8 \\ 8 - 8 \\ 0 \end{array}$$

3.  $f(x) = 7x - 8$  when  $x = 3$

$$\begin{array}{r} f(3) = 7(3) - 8 \\ = 21 - 8 \\ = 13 \end{array}$$

4.  $f(x) = x^2$  when  $x = 5$

$$\begin{array}{r} f(5) = 5^2 \\ = 25 \end{array}$$

Solve each equation. SHOW YOUR WORK!

1.  $r - 13 = 7$

$$\begin{array}{r} +13 \quad +13 \\ \hline r = 20 \end{array}$$

2.  $\frac{x}{3} + 4 = 6$

$$\begin{array}{r} -4 \quad -4 \\ \hline 3 \cdot \frac{x}{3} = 2 \cdot 3 \\ x = 6 \end{array}$$

3.  $4m - 13 = 51$

$$\begin{array}{r} +13 \quad +13 \\ \hline 4m = 64 \\ \hline 4 \quad 4 \\ m = 16 \end{array}$$

4.  $2y + 6 = -4y + 18$

$$\begin{array}{r} +4y \quad +4y \\ \hline 6y + 6 = 18 \\ \hline -6 \quad -6 \\ \hline 6y = 12 \\ \hline 6 \quad 6 \\ y = 2 \end{array}$$

5.  $-4m + 8 = 12$

$$\begin{array}{r} -8 \quad -8 \\ \hline -4m = 4 \\ \hline -4 \quad -4 \\ m = -1 \end{array}$$

6.  $2(2c - 4) = -2(c + 10)$

$$\begin{array}{r} 4c - 8 = -2c - 20 \\ +2c \quad +2c \\ \hline 6c - 8 = -20 \\ +8 \quad +8 \\ \hline 6c = -12 \\ \hline 6 \quad 6 \\ c = -2 \end{array}$$

Substitute and solve for x. SHOW YOUR WORK!

7.  $f(x) = 2x + 12$  when  $f(x) = 60$

$$\begin{array}{r} 60 = 2x + 12 \\ -12 \quad -12 \\ \hline 48 = 2x \\ \frac{48}{2} = \frac{2x}{2} \\ 24 = x \end{array}$$

8.  $f(x) = -5x$  when  $f(x) = 120$

$$\begin{array}{r} 120 = -5x \\ -5 \quad -5 \\ \hline -24 = x \end{array}$$

9.  $f(x) = 3x + 25$  when  $f(x) = 178$

$$\begin{array}{r} 178 = 3x + 25 \\ -25 \quad -25 \\ \hline 153 = 3x \\ \frac{153}{3} = \frac{3x}{3} \\ 51 = x \end{array}$$

10.  $f(x) = x - 200$  when  $f(x) = 175$

$$\begin{array}{r} 175 = x - 200 \\ +200 \quad +200 \\ \hline 375 = x \end{array}$$

11.  $f(x) = -4x + 52$  when  $f(x) = 486$

$$\begin{array}{r} 486 = -4x + 52 \\ -52 \quad -52 \\ \hline 434 = -4x \\ \frac{434}{-4} = \frac{-4x}{-4} \\ -108.5 = x \end{array}$$

12.  $f(x) = 4x - 16$  when  $f(x) = 2x + 12$

$$\begin{array}{r} 2x + 12 = 4x - 16 \\ -4x \quad -4x \\ \hline -2x + 12 = -16 \\ \frac{-2x + 12}{-12} = \frac{-16}{-12} \\ -2x = -28 \\ \frac{-2x}{-2} = \frac{-28}{-2} \\ x = 14 \end{array}$$