

Practice 3.3

Solve each equation.

$$\begin{array}{r|l}
 -3 + 2x + 2x & = -3 \\
 -3 + 4x & = -3 \\
 +3 & +3 \\
 \hline
 4x & = 0 \\
 \frac{4}{4} & \frac{0}{4} \\
 \hline
 x & = 0
 \end{array}$$

$$\begin{array}{r|l}
 2 - m - 1 & = 0 \\
 -m + 1 & = 0 \\
 -1 & -1 \\
 \hline
 -m & = -1 \\
 \frac{-1}{-1} & \frac{-1}{-1} \\
 \hline
 m & = 1
 \end{array}$$

$$\begin{array}{r|l}
 -2a - 3a & = 5 \\
 -5a & = 5 \\
 \frac{-5}{-5} & \frac{5}{-5} \\
 \hline
 a & = -1
 \end{array}$$

$$\begin{array}{r|l}
 3 = 1 + x - 1 & \\
 3 = x & \\
 \hline
 \end{array}$$

$$\begin{array}{r|l}
 -60 = 4(1 + 4x) & \\
 -60 = 4 + 16x & \\
 -4 & -4 \\
 \hline
 -64 = 16x & \\
 \frac{16}{16} & \frac{16}{16} \\
 \hline
 -4 = x &
 \end{array}$$

$$\begin{array}{r|l}
 -3(2 + 4p) = 42 & \\
 -6 - 12p = 42 & \\
 +6 & +6 \\
 \hline
 -12p = 48 & \\
 \frac{-12}{-12} & \frac{48}{-12} \\
 \hline
 p = -4 &
 \end{array}$$

CLT

$$\begin{array}{r|l}
 -4(-3 - 3k) - 4 = 56 & \\
 12 + 12k - 4 = 56 & \\
 12k + 8 = 56 & \\
 12k = 48 & \\
 \frac{12}{12} & \frac{48}{12} \\
 \hline
 k = 4 &
 \end{array}$$

$$\begin{array}{r|l}
 -\frac{3}{17}(4x - 1) = 3 & \\
 -\frac{12}{17}x + \frac{3}{17} = \frac{3}{1} & \\
 -\frac{12}{17}x + \frac{3}{17} - \frac{3}{17} & = \frac{3}{1} - \frac{3}{17} \\
 -\frac{12}{17}x & = \frac{48}{17} \\
 \frac{-12}{17} & \frac{48}{17} \\
 \hline
 x & = -4
 \end{array}$$

$$\begin{array}{l}
 \frac{17}{17} \\
 \text{OR} \rightarrow \frac{17}{17}(4x - 1) = \frac{17}{17} \cdot 3 \\
 4x - 1 = -17 \\
 +1 \quad +1 \\
 \hline
 4x = -16 \\
 \frac{4}{4} \quad \frac{-16}{4} \\
 \hline
 x = -4
 \end{array}$$

$$9) -1368 = 36(v - 28)$$

$$\begin{array}{r} -1368 = 36v - 1008 \\ +1008 \quad \quad +1008 \\ \hline -360 = 36v \\ \underline{36} \quad \quad \underline{36} \\ -10 = v \end{array}$$

$$11) 43.98 = 3.9 + 4(3.3 + 2.4a)$$

$$\begin{array}{r} 43.98 = 3.9 + 13.2 + 9.6a \\ 43.98 = 17.1 + 9.6a \\ -17.1 \quad -17.1 \\ \hline 26.88 = 9.6a \\ \underline{9.6} \quad \quad \underline{9.6} \\ 2.8 = a \end{array}$$

$$13) -7(2n + 5) - 5 = -89$$

$$\begin{array}{r} -14n - 35 - 5 = -89 \\ -14n - 40 = -89 \\ -14n = -49 \\ \underline{-14} \quad \quad \underline{-14} \\ n = 3.5 \end{array}$$

$$15) 7(8b + 6) = -182$$

$$\begin{array}{r} 56b + 42 = -182 \\ 56b = -224 \\ \underline{56} \quad \quad \underline{56} \\ b = -4 \end{array}$$

$$17) -91 = -6(-1 + 4n) - 1$$

$$\begin{array}{r} -91 = 6 - 24n - 1 \\ -91 = 5 - 24n \\ -5 \quad -5 \\ \hline -96 = -24n \\ \underline{24} \quad \quad \underline{24} \\ 4 = n \end{array}$$

$$10) 4 + 9(7 + 5n) = 517$$

$$\begin{array}{r} 4 + 63 + 45n = 517 \\ 67 + 45n = 517 \\ -67 \quad -67 \\ \hline 45n = 450 \\ \underline{45} \quad \quad \underline{45} \\ n = 10 \end{array}$$

$$12) -3.4(2.7a - 1.7) - 1.2a = 47.3$$

$$\begin{array}{r} -9.18a + 5.78 - 1.2a = 47.3 \\ -10.38a + 5.78 = 47.3 \\ -5.78 \quad -5.78 \\ \hline -10.38a = 41.52 \\ \underline{-10.38} \quad \quad \underline{-10.38} \\ a = 4 \end{array}$$

$$14) 9 = \frac{1}{2}(-2 + 5n)$$

$$\begin{array}{r} 9 = -1 + \frac{5}{2}n \\ +1 \quad +1 \\ \hline 10 = \frac{5}{2}n \\ \frac{2}{5} \cdot 10 = \frac{5}{2}n \cdot \frac{2}{5} \\ 4 = n \end{array}$$

$$16) 121 = -5 + 6(-4v + 5)$$

$$\begin{array}{r} 121 = -5 - 24v + 30 \\ 121 = -24v + 25 \\ -25 \quad -25 \\ \hline 96 = -24v \\ \underline{-24} \quad \quad \underline{-24} \\ -4 = v \end{array}$$

$$18) 6(-24x + 4) = 96$$

$$\begin{array}{r} -144x + 24 = 96 \\ -24 \quad -24 \\ \hline -144x = 72 \\ \underline{-144} \quad \quad \underline{-144} \\ x = -\frac{1}{2} \end{array}$$