

3-6-1 Variables on Both sides

$$\begin{array}{r} \textcircled{a} \quad 5x - 8 = 7x + 3 \\ \underline{-5x \quad -5x} \\ -8 = 2x + 3 \\ \underline{-3 \quad -3} \\ -11 = 2x \\ \frac{-11}{2} = \frac{2x}{2} \\ -5\frac{1}{2} = x \end{array}$$

$$\begin{array}{r} 2s - 8 = 3s + 9 \\ \underline{-2s \quad -2s} \\ -8 = s + 9 \\ \underline{-9 \quad -9} \\ -17 = s \end{array}$$

$$\begin{array}{r} 50x - 80 = 70x + 30 \\ \underline{-50x \quad -50x} \\ -80 = 20x + 30 \\ \underline{-30 \quad -30} \\ -110 = 20x \\ \frac{-110}{20} = \frac{20x}{20} \\ -\frac{11}{2} = x \quad -5\frac{1}{2} = x \end{array}$$

$$\begin{array}{r} \textcircled{b} \quad 3d - 1 = 4d + 9 \\ \underline{-3d \quad -3d} \\ -1 = d + 9 \\ \underline{-9 \quad -9} \\ -10 = d \end{array}$$

$$\begin{array}{r} 3s - 9 = 2s + 10 \\ \underline{-2s \quad -2s} \\ s - 9 = 10 \\ \underline{+9 \quad +9} \\ s = 19 \end{array}$$

$$\begin{array}{r} 4L - 12 = 8 + 5L \\ \underline{-4L \quad -4L} \\ -12 = 8 + L \\ \underline{-8 \quad -8} \\ -20 = L \end{array}$$

$$\begin{array}{r} \textcircled{c} \quad 7x + 4 = 5x - 8 \\ \underline{-5x \quad -5x} \\ 2x + 4 = -8 \\ \underline{-4 \quad -4} \\ 2x = -12 \\ \frac{2x}{2} = \frac{-12}{2} \\ x = -6 \end{array}$$

$$\begin{array}{r} 4s - 10 = s + 11 \\ \underline{-s \quad -s} \\ 3s - 10 = 11 \\ \underline{+10 \quad +10} \\ 3s = 21 \\ \frac{3s}{3} = \frac{21}{3} \\ s = 7 \end{array}$$

$$\begin{array}{r} 2K + 3 = 6K - 4 \\ \underline{-2K \quad -2K} \\ 3 = 4K - 4 \\ \underline{+4 \quad +4} \\ 7 = 4K \\ \frac{7}{4} = \frac{4K}{4} \\ \frac{7}{4} = K \end{array}$$

$$\begin{array}{r} \textcircled{d} \quad 6 - 5c = 2 + 9c \\ \underline{+5c \quad +5c} \\ 6 = 2 + 14c \\ \underline{-2 \quad -2} \\ 4 = 14c \\ \frac{4}{14} = \frac{14c}{14} \\ \frac{2}{7} = c \end{array}$$

$$\begin{array}{r} -11 - s = 4s + 12 \\ \underline{+s \quad +s} \\ -11 = 5s + 12 \\ \underline{-12 \quad -12} \\ -23 = 5s \\ \frac{-23}{5} = \frac{5s}{5} \\ -4\frac{4}{5} = s \end{array}$$

$$\begin{array}{r} 4x - 10 = 10x + 4 \\ \underline{-4x \quad -4x} \\ -10 = 6x + 4 \\ \underline{-4 \quad -4} \\ -14 = 6x \\ \frac{-14}{6} = \frac{6x}{6} \\ -\frac{7}{3} = x \end{array}$$

$$\begin{array}{r} \textcircled{e} \quad \frac{2x}{3} - \frac{7x}{4} - 8 = 2x - 7 \\ \frac{2x}{3} - \frac{7x}{4} - 8 = 2x - 7 \\ \underline{+\frac{17}{12}x \quad +\frac{17}{12}x} \\ -8 = 3\frac{1}{2}x - 7 \\ \underline{+7 \quad +7} \\ \frac{12}{37}(-1) = \frac{37}{12}x \cdot \frac{12}{37} \\ -1\frac{2}{37} = x \end{array}$$

$$\begin{array}{r} -4\frac{2}{3} + x + 1\frac{7}{8} = 7x - 9 \\ \underline{-x \quad -x} \\ -4\frac{2}{3} + 1\frac{7}{8} = 6x - 9 \\ \underline{+9 \quad +9} \\ -4\frac{2}{3} + 10\frac{7}{8} = 6x \\ \frac{6\frac{5}{24}}{6} = \frac{6x}{6} \\ \frac{1\frac{1}{30}}{6} = x \end{array}$$

$$\begin{array}{r} 3\left(\frac{s}{5} - 12\right) + \frac{s}{4} = 15 \\ \frac{3s}{5} - 36 + \frac{s}{4} = 15 \\ \frac{17}{20}s - 36 = 15 \\ \underline{+36 \quad +36} \\ \frac{17}{20}s = 51 \\ \frac{17}{20} \cdot \frac{20}{17} = \frac{51 \cdot 20}{17} = 60 \\ s = 60 \end{array}$$

$$\begin{array}{l} 6\frac{5}{25} \div 6 \\ \frac{155}{25} \times \frac{1}{6} = \frac{155}{150} \end{array}$$