

2.6 Solving Proportions

$$\textcircled{1} \quad \frac{x}{2} = \frac{10}{12} \quad (x=1)$$

$$\frac{12x}{12} = \frac{12}{12}$$

$$(x=1)$$

$$\textcircled{2} \quad \frac{15}{35} = \frac{g}{7}$$

$$\frac{105}{35} = \frac{35g}{35}$$

$$g=3$$

$$\textcircled{3} \quad \frac{7}{1.066} = \frac{x}{9.65}$$

$$67.55 = 1.066x$$

$$(x=63.37)$$

$$\textcircled{4} \quad \frac{10}{15} = \frac{4}{x-5}$$

$$10(x-5) = 60$$

$$10x - 50 = 60$$

$$+50 \quad +50$$

$$10x = 110$$

$$\frac{10x}{10} = \frac{110}{10}$$

$$(x=11)$$

$$\textcircled{5} \quad \frac{7}{x+9} = \frac{21}{36}$$

$$252 = 21x + 189$$

$$\begin{array}{r} 252 = 21x + 189 \\ -189 \quad -189 \\ \hline \end{array}$$

$$63 = 21x$$

$$\frac{63}{21} = \frac{21x}{21}$$

$$(3=x)$$

$$\textcircled{6} \quad \frac{4x+7}{15} = \frac{6x+2}{10}$$

$$40x + 70 = 90x + 30$$

$$\begin{array}{r} 40x + 70 = 90x + 30 \\ -40x \quad -30 \quad -40x \quad -30 \\ \hline \end{array}$$

$$40 = 50x$$

$$\frac{40}{50} = \frac{50x}{50}$$

$$\frac{4}{5} = x$$

$$(7) \frac{c+2}{c-2} = \frac{4}{8}$$

$$\begin{array}{r} 8c+16 = 4c-8 \\ -4c \quad -4c \\ \hline 4c+16 = -8 \end{array}$$

$$\begin{array}{r} 4c+16 = -8 \\ -16 \quad -16 \\ \hline 4c = -24 \end{array}$$

$$\frac{4c}{4} = \frac{-24}{4}$$

$$c = -6$$

$$\begin{array}{r} 8c+16 = 4c-8 \\ +8 \quad +8 \\ \hline 8c+24 = 4c \end{array}$$

$$\begin{array}{r} 8c+24 = 4c \\ -8c \quad -8c \\ \hline 24 = -4c \end{array}$$

$$\frac{24}{-4} = \frac{-4c}{-4}$$

$$-6 = c$$

$$(8) \frac{7n-2}{6} = \frac{3n-2}{4}$$

$$\begin{array}{r} 28n-8 = 18n-12 \\ +12 \quad +12 \\ \hline 28n+4 = 18n \end{array}$$

$$\begin{array}{r} 28n+4 = 18n \\ -28n \quad -28n \\ \hline 4 = -10n \end{array}$$

$$\frac{4}{-10} = \frac{-10n}{-10}$$

$$-\frac{2}{5} \text{ or } -0.4 = n$$