

# L39 Proportions

A proportion is 2 equal ratios

$$\frac{1}{2} = \frac{3}{6}$$

$$3 \times 2 = 1 \times 6$$

$$6 = 6$$

if cross products are equal, then it is a proportion

$$\frac{12}{21} = \frac{10}{15}$$

$$210 \neq 120$$

not a  
proportion

$$\begin{array}{r} 21 \\ \times 10 \\ \hline 210 \end{array}$$

$$\begin{array}{r} 12 \\ \times 15 \\ \hline 60 \\ 120 \end{array}$$

$$\frac{4}{8} = \frac{3}{6}$$

$$\begin{array}{r} 24 \\ 24 \end{array} \checkmark$$

$$\frac{14}{21} = \frac{n}{15}$$

$$21n = 14(15)$$

$$21n = 210$$

$$n = 210 \div 21$$

$$n = 10$$

$$\frac{12}{20} = \frac{n}{30}$$

$$20n = 12(30)$$

$$20n = 360$$

$$n = 360 \div 20$$

$$n = 18$$

$$\begin{array}{r} 12 \\ \times 30 \\ \hline 360 \end{array}$$

$$\begin{array}{r} 18 \\ 20 \overline{) 360} \\ \underline{20} \phantom{0} \\ 160 \\ \underline{-160} \\ \hline \hline \end{array}$$

$$\frac{1.2}{x} = \frac{4}{6}$$

$$4x = 1.2(6)$$

$$4x = 7.2$$

$$x = 7.2 \div 4$$

$$x = 1.8$$

$$\begin{array}{r} 1.2 \\ \times 6 \\ \hline 7.2 \end{array}$$

$$\begin{array}{r} 1.8 \\ 4 \overline{) 7.2} \\ \underline{4} \phantom{0} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

L39 #1-4, 6-8, 10, 12-21,  
28, 29