

Proportions

Determine if the quantities in each pair of ratios are proportional.

1) 10 boys for 15 girls and 14 boys for 21 girls

Method #1

$$\left. \begin{array}{l} \frac{10 \div 5}{15 \div 5} = \frac{2}{3} \\ \frac{14 \div 7}{21 \div 7} = \frac{2}{3} \end{array} \right\} \text{Yes}$$

Method #2

$$\begin{array}{l} \frac{10 \times 21}{15 \times 14} \\ 10 \cdot 21 \stackrel{?}{=} 15 \cdot 14 \\ 210 = 210 \checkmark \text{ Yes} \end{array}$$

Solve each proportion.

$$\begin{array}{l} 2) \quad \frac{7 \times 3}{x \times 6} \\ 3 \cdot x = 7 \cdot 6 \\ \frac{3x}{3} = \frac{42}{3} \\ \boxed{x = 14} \end{array}$$

$$\begin{array}{l} 3) \quad \frac{2.5}{4.5} = \frac{7.5}{x} \\ (2.5)x = (4.5)(7.5) \\ \frac{2.5x}{2.5} = \frac{33.75}{2.5} \\ \boxed{x = 13.5} \end{array}$$