

## Overview of problems



Example Set: A

Write the ratio in the simplest form

$$\frac{14}{16}$$

$$\frac{30}{50}$$

$$\frac{3x}{12x}$$

$$\frac{6n^2}{3n}$$

$$\frac{4xy^2}{8x^2y}$$

$$\frac{2x+2}{-5(x+1)}$$

Solve the proportions

$$\frac{x}{3} = \frac{12}{4}$$

$$\frac{6}{5} = \frac{12}{y}$$

$$\frac{x+1}{2} = 4$$



## Example Set: B

Find the value of  $x$

$$\frac{3x}{10} = \frac{2}{7}$$

$$\frac{2x-1}{4x+3} = \frac{2}{3}$$

$$\frac{x+3}{2} = \frac{x-3}{5}$$

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

$$\frac{x-2}{x+1} = \frac{x+4}{x+2}$$



## Example Set: C

Show that the given proportions are equivalent

$$\frac{a+b}{b} = \frac{c+d}{d} \quad \text{and} \quad \frac{a}{b} = \frac{c}{d}$$

## Overview of problems- KEY



Example Set: A

Write the ratio in the simplest form

$$\frac{14}{16} = \frac{7}{8}$$

$$\frac{30}{50} = \frac{3}{5}$$

$$\frac{3x}{12x} = \frac{1}{4}$$

$$\frac{6n^2}{3n} = 2n$$

$$\frac{4xy^2}{8x^2y} = \frac{y}{2x}$$

$$\frac{2x+2}{-5(x+1)} = -\frac{2}{5}$$

Solve the proportions

$$\frac{x}{3} = \frac{12}{4}$$

$$x = 9$$

$$\frac{6}{5} = \frac{12}{y}$$

$$y = 10$$

$$\frac{x+1}{2} = 4$$

$$x = 7$$



## Example Set: B

Find the value of x

$$\frac{3x}{10} = \frac{2}{7}$$

$$x = \frac{20}{21}$$

$$\frac{2x-1}{4x+3} = \frac{2}{3}$$

$$x = -\frac{9}{2}$$

$$\frac{x+3}{2} = \frac{x-3}{5}$$

$$x = -7$$

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

$$x = 20$$

$$\frac{x-2}{x+1} = \frac{x+4}{x+2}$$

$$x = -\frac{8}{5}$$



## Example Set: C

Show that the given proportions are equivalent

$$\frac{a+b}{b} = \frac{c+d}{d} \quad \text{and} \quad \frac{a}{b} = \frac{c}{d}$$

$$\frac{a+b}{b} = \frac{c+d}{d}$$

$$d(a+b) = b(c+d)$$

$$da + db = bc + db$$

$$\begin{array}{r} da + db = bc + db \\ \underline{-db \qquad -db} \end{array}$$

$$da = bc$$

$$\frac{da}{b} = \frac{bc}{b}$$

$$\frac{da}{b} = c$$

$$\frac{1}{d} \cdot \frac{da}{b} = c \cdot \frac{1}{d}$$

$$\frac{a}{b} = \frac{c}{d}$$