

## 6-5 Solving Proportions

ratio:  $\frac{2}{3}$       2:3

proportion:  $\frac{2}{3} = \frac{4}{6}$

What is true about proportions?

$$\frac{2}{3} = \frac{4}{6}$$

Ex. 1:

Solve

$$\frac{5}{9} = \frac{x}{27}$$

$$\frac{9 \cdot x}{9} = \frac{5 \cdot 27}{9}$$

$$x = 15$$

$$\frac{2}{3} = \frac{8}{y}$$

$$y = 12$$

Ex. 2

Solve:

$$\frac{2}{6} = \frac{x}{9}$$

$$6x = 18 \quad x = 3$$

$$\frac{1}{3} = \frac{x}{9}$$

$$\frac{2}{10} = \frac{y}{25}$$

$$y = 5$$

Ex. 3

Solve:

$$\frac{x}{36} = \frac{9}{15}$$

$$\frac{x}{36} = \frac{3}{5}$$

$$x = 21.6$$

$$\frac{4}{9} = \frac{y}{15}$$

$$y = 6.\bar{6}$$

$$y \approx 6.7$$

Ex. 4

Solve:

~~$$\frac{5}{a} = \frac{2}{7}$$~~

$$2a = \frac{35}{2}$$

$$a = 17.5$$

~~$$\frac{3}{8} = \frac{10}{b}$$~~

$$\frac{3b}{3} = \frac{80}{3}$$

$$b = 26.\bar{6}$$

Ex. 5

Solve:

$$\frac{3}{14} = \frac{15}{m-3}$$

$$\begin{array}{r} m-3 = 70 \\ +3 \quad +3 \\ \hline m = 73 \end{array}$$

~~$$\frac{x-18}{24} = \frac{15}{8}$$~~

$$x = 63$$

Homework  
p.290  
#10-20 & 32-36 evens