

Proportions

State if each pair of ratios forms a proportion.

Example

1) $\frac{4}{2}$ and $\frac{20}{6}$

$2 \cdot 20 = 4 \cdot 6$

$40 \neq 24$

No

2) $\frac{3}{2}$ and $\frac{18}{8}$

3) $\frac{4}{3}$ and $\frac{16}{12}$

4) $\frac{4}{3}$ and $\frac{8}{6}$

5) $\frac{12}{24}$ and $\frac{3}{4}$

6) $\frac{6}{9}$ and $\frac{2}{3}$

Solve each proportion.

Example

7) $\frac{10}{k} = \frac{8}{4}$

$\frac{8k}{8} = \frac{40}{8}$

$k = 5$

8) $\frac{m}{10} = \frac{10}{3}$

9) $\frac{2}{x} = \frac{7}{9}$

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

Solving Proportions

Date _____ Period _____

Solve each proportion. Round to the nearest tenth.

Hint! Cross multiply!

Example

$$1) \frac{6}{2} = \frac{4}{p}$$

$$\frac{6p}{6} = \frac{8}{6}$$

$$p = 1.3$$

$$2) \frac{4}{k} = \frac{8}{2}$$

$$3) \frac{n}{4} = \frac{8}{7}$$

$$4) \frac{5}{3} = \frac{x}{4}$$

$$5) \frac{m}{5} = \frac{7}{2}$$

$$6) \frac{7}{4} = \frac{r}{5}$$

$$7) \frac{7}{6} = \frac{5}{x}$$

$$8) \frac{6}{5} = \frac{2}{5n}$$

Solve each proportion. Round your answers to the nearest hundredth.

Example

$$9) \frac{7.7}{3.6} = \frac{2.3}{b}$$

$$7.7b = \frac{8.28}{7.7}$$

$$b = 1.075$$

$$b = 1.08$$

$$10) \frac{v}{4.9} = \frac{5.4}{6.1}$$

$$11) \frac{6.3}{x} = \frac{2.56}{9.3}$$

$$12) \frac{3.4}{x} = \frac{2.17}{7.7}$$

Percent Word Problems

Solve each problem.

Example

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

1) What percent of 126 is 22?

$$\frac{22}{126} = \frac{x}{100}$$

$$12.46$$

$$126x = 2200$$

$$\frac{126x}{126} = \frac{2200}{126}$$

$$x = 12.5$$

2) 81 is 56% of what?

3) 25.7 is what percent of 141?

4) 17% of what is 156?

5) 46 is what percent of 107?

6) 79.9 is 99% of what?

7) 62% of what is 89.3?

8) What percent of 137.4 is 96?

9) 30% of 117 is what?

10) 11 is what percent of 97?

Similar Figures

Each pair of figures is similar. Find the missing side.

Example:

1)

$\frac{x}{20} = \frac{3}{12}$
 $\frac{12x}{12} = \frac{60}{12}$
 $x = 5$

2)

3)

4)

5)

6)

7)

8)