

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Warm - Up

Solve the following proportions

1. $\frac{4}{9} = \frac{2}{x}$

$x = 3$

$\frac{4}{9} = \frac{2}{x}$
 $18 = 4x / 4$
 $4\frac{1}{2} = x$
(4.5)

2. $\frac{6}{a} = \frac{3}{8}$

$3 \cdot a = 6 \cdot 8$
 $3a = \frac{48}{3}$
 $a = 16$

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Vocabulary

Percent Proportion:

A proportion that involves a percent that is written as a ratio

$$57\% = \frac{57}{100}$$

$$7.5\% = \frac{7.5}{100}$$

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

- Setting up a percent proportion: $\frac{\text{Part}}{\text{Whole}} = \frac{\%}{100}$

Part is percent (%) of whole?

- Can be solved by cross-multiplication.

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Practice:

1. The ratio of tagged fish to the total number of fish in a lake is 200 to 2500. What percent of the fish are tagged?

$\frac{\text{tagged}}{\text{total}}$

$$\frac{200}{2500} = \frac{x}{100}$$

$$\frac{2500x}{2500} = \frac{20000}{2500}$$

$$x = 8\%$$

Eight percent of the fish are tagged.

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Practice

2. 11% of fish are tagged in a lake. That is 250 tagged fish.
How many fish are in the lake?

Part: 250
Whole: x
Percent: 11

$$\frac{250}{x} = \frac{11}{100}$$
$$\frac{11x}{11} = \frac{25000}{11}$$
$$x = 2272.72$$

$$x \approx 2273 \text{ fish}$$

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Practice

3. What number is 25% of 250?

Part
Whole
%

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

Proportion Word Problems not Involving Percents

A car travels 320 miles on 12 gallons of gas. Write and solve a proportion to find how many gallons the car needs to travel 640 miles.

Underline important info first!

Use the info to write to ratios! When writing the ratios your units should be in the same location for both ratios.

Set the ratios equal to each other and solve for the unknown!

CLO:

Students will be able to setup proportions to model and solve real-world problems and write about what the solution represents in the real-world.

A messenger service has determined that they can get all of their deliveries out each day if they have 6 riders for every 40 square miles of area they cover. If they want to offer service to a count of 85 square miles, how many drives must they have?

Underlined info:

Ratios: _____

Proportion:

