

2-6 Ratios and Proportions Word Problems

1. A ratio is a mathematical statement that relates

Two quantities

2. A proportion is an equation that states that two

ratios are equal

3. To find the reciprocal of a fraction we _____

the numerator and the denominator

PROPERTIES OF PROPORTIONS

RECIPROCAL PROPERTY

If two ratios are equal, their reciprocals, if they exist, are also equal.

If $\frac{a}{b} = \frac{c}{d}$, then $\frac{b}{a} = \frac{d}{c}$ Example: $\frac{2}{3} = \frac{4}{6} \Rightarrow$

CROSS PRODUCT PROPERTY

The product of the extremes equals the product of the means.

If $\frac{a}{b} = \frac{c}{d}$, then $ad = bc$ Example:

Solving Word Problems

Step 1: Avoid panic and confusion at all times.

Step 2: Take a deep breathe

Step 3: Read the problem

Step 4: Write down the ratio you have

Step 5: Decide what you are trying to find

Step 6: Make sure your units match

Step 7: Just do it. **DONT FORGET UNITS**

If you can buy one can of pineapple chunks for \$2 then how many can you buy with \$10?

$$\frac{1}{\$2} = \frac{x}{\$10} \quad \frac{10}{2} = \frac{2x}{2}$$

$$5 = x$$

5 cans of pineapple chunks

DONT FORGET YOUR UNITS

One jar of crushed ginger costs \$2. How many jars can you buy for \$4?

$$\frac{1}{\$2} \times \frac{x}{\$4} \quad \frac{4}{2} = \frac{2x}{2}$$

2 jars of crushed ginger

DONT FORGET YOUR UNITS

Ming was planning a trip to Western Samoa. Before going, she did some research and learned that the exchange rate is 6 Tala for \$2. How many Tala would she get if she exchanged \$6?

$$\frac{6}{\$2} \times \frac{x}{\$6} \quad \frac{36}{2} = \frac{2x}{2} \quad x = 18$$

18 Tala

DONT FORGET YOUR UNITS

Mrs. Bramall is in Prague, the Czech Republic where they use crowns. She is really thirsty and wants to buy a Coca-Light. It is 150 crowns. If the exchange rate is 17 crowns to the dollar. How much is the Coca-light? Is that a reasonable amount to pay?

$$\frac{17}{\$1} \times \frac{150}{x} \quad \frac{17x}{17} = \frac{150}{17} \quad x = \$8.83$$

DONT FORGET YOUR UNITS

Mary reduced the size of a painting to a width of 3.3 inches. What is the new height if it was originally 32.5 inches tall and 42.9 inches wide?

$$\frac{32.5 \text{ in tall}}{42.9 \text{ in wide}} \times \frac{x}{3.3 \text{ in wide}} \quad \frac{32.5(3.3) = 42.9x}{42.9} \quad \frac{107.25}{42.9} = 42.9x$$

2.5 inches tall

DONT FORGET YOUR UNITS

