Solving Ratio & Rate Problems Using Proportions - Notes & Practice

You can use proportions to solve many types of problems.

Steps:

1. Highlight all important information in the problem
2. Set up the proportion using words
3. Fill in the data given in the problems
4. Create an equivalent ratio
5. Write the final answer as a complete sentence

Example #1:

1. The ratio of children to teachers at a preschool must be 8 to 1. How many teachers must work at the preschool if there are 24 children enrolled?

2. Write the proportion in words \( \frac{\text{children}}{\text{teachers}} = \frac{\text{children}}{\text{teachers}} \)

3. Fill in the given data \( \frac{8}{1} = \frac{24}{x} \)

4. Create an equivalent ratio \( \frac{8}{1} = \frac{24}{3} \)

5. Write the final answer as a complete sentence - There must be 3 teachers for 24 children.

Practice Problems: Set up a proportion for each problem. Solve showing all work as shown above.

1. To mix orange paint, you combine 3 parts yellow paint with 2 parts red paint. You have 12 cups of red paint and want to use it all. How much yellow paint do you need? Let \( y \) be the number of cups of yellow paint.

2. A gardener plants 3 red flowers for every 5 white flowers. She has 24 red flowers to plant. How many white flowers will she plant?

3. Phil can solve 4 math problems in 5 minutes. How much time does he need to solve 20 math problems?

4. A model of the Sphinx is 11 inches tall. The actual Sphinx is 60 feet tall. If the Great Pyramid is 480 feet tall, how tall should the model be?