

Proportions

Reporting Category Computation and Estimation

Topic Solving a proportion to find a missing term

Primary SOL 7.4 The student will solve single-step and multistep practical problems, using proportional reasoning.

Related SOL 7.6

Materials

- Proportions activity sheet (attached)
- Proportion Grid Cards (attached)
- Glue stick
- Scissors

Vocabulary

ratio, variable (earlier grades)

equivalent ratio, proportion (7.4)

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Review solving proportions for a missing term.
2. Place students in groups of two. Give each group a Proportions activity sheet along with the Proportion Grid Cards. Have students cut out the squares associated with the first problem. Prompt students to place like labels across from each other on the proportion grid. Have the first problem displayed on the board or projector, and model the appropriate placement on the class display. Stress that there is more than one correct way to place the labels on the proportion grid. Once the labels are correctly placed, have students place the numbers and variables appropriately on the grid and glue them in place. Once all the pieces have been placed, have students solve the proportion for the missing term.
3. Have each group complete the second problem on the Proportions activity sheet without assistance.
4. Ask each group to explain how they solved the problem.
5. Give students additional problems for practice.

Assessment

- **Questions**
 - What does it mean for ratios to be proportional?
 - Can a proportion be solved in more than one way? Does it matter where the missing term is located?
- **Journal/Writing Prompts**
 - Describe at least two ways to solve a proportion.
 - Explain how you can prove two ratios are proportional. Prove your explanation.

- **Other**
 - Have each student write a practical problem. Have students exchange and solve problems.

Extensions and Connections (for all students)

- Give students a chart of sports statistics to use in creating practical problems.
- Have students research the golden ratio and find examples of when it is used.
- Have students use a map, a recipe, a model car, and other items to find proportions.

Proportions

Name _____ Date _____

Jose collects stamps. He has 7 used stamps for every 4 new stamps. If he has 28 new stamps, how many used stamps does he have?

_____ = _____

Proportion Grid 1

Solve:

Marcie can mow 9 lawns every 14 hours. How many lawns can she mow in 49 hours?

_____ = _____

Solve:

Proportion Grid 2

Proportion Grid Cards

Cards for Proportion Grid 1

7	4	28
New stamps	Used stamps	n
New stamps	Used stamps	

Cards for Proportion Grid 2

9	14	49
Lawns	Hours	n
Lawns	Hours	