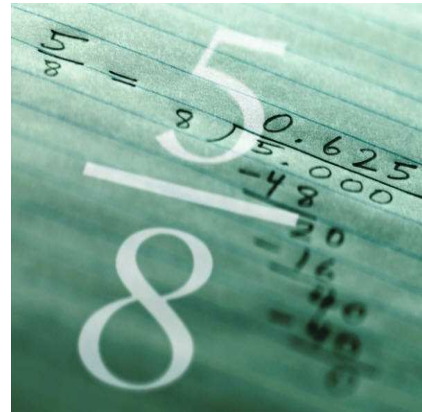


Algebra/Geometry Institute Summer 2005

Proportions

Faculty Name: Keiya Brown
School: West Bolivar Middle School
Grade Level: 7th



1 Teaching objective(s)
8b - Solve problems involving proportions.

2 Instructional Activities
(This lesson will be implemented after all students have mastered and understand ratios.)

* The teacher will begin the lesson by giving students the following scenario:

✚ A survey conducted at our school revealed that 8 out of 10 students watched at least 3 hours of television each day.

* The teacher will lead the discussion to the scenario by asking the following questions:

✚ a) "If I wanted to determine how many students in our school actually watch at least 3 hours of television each day, what other information would I need to know?"

(The teacher will wait for student responses)

✚ b) "Now, If I am able to find out the number of students in our school, what can I do to find out the number of students that watch at least 3 hours of television each day?"

(The teacher will wait for student responses)

* The teacher will review the concept of determining if two ratios are equivalent. The teacher will introduce the term proportion. The teacher will explain that if two ratios are equal then they form a proportion. The teacher will then explain how to solve proportions by working examples on the board.

* The teacher will give the steps to use when solving proportions. The teacher will give three examples for students to work.

- 1) The ratio of free throws made between Travis and James is 6 to 7. If Travis made 12 free throws, how many did James make?
- 2) Sean can run two miles in 8 minutes. How many minutes will it take him to run four miles?
- 3) Kiara bought 15 pencils for \$2.25. How much did she pay for each pencil?

* **The teacher will assign three problems. As the students work through these problems, they will be required to write an explanation for each step. (See attachment).**

* **Each student will label each step with a different color to identify the specific step that they are performing.**

3 Materials and Resources

Paper

Pencils

Calculators


Color pencils


Resources:

Website: edhelper.com

Textbook: Glencoe Mathematics; The McGraw-Hill Companies. Copyright 2001.

4 Assessment

 The teacher will observe the students as they work at their seats. The teacher will look to see if the students are following the given directions.

 Performance assessment: The teacher will allow each student to explain a specific step to the class. All papers will be taken up and graded.

Name: _____

Date: _____

SOLVING PROPORTIONS

DIRECTIONS: Solve the following proportions using the steps given in class. Explain each step using a different color. Place your final answer on the blank.

1. Tonya bought 3 pounds of apples for \$1.29. If the rate is the same, what would be the cost of 5 pounds of apples?

2. The ratio of yellow paint to blue paint is 3:5. If John has 12 gallons of yellow paint for a mixture, how many gallons of blue paint does he need?

3. Jackie can mow 6 yards in two days. How many yards should she be able to mow in 15 days?
