

FACT FAMILIES

Performance Standard 8C.C

Calculate answers to four different problems using only the numbers 6, 7, and 42 accordingly:

- *Mathematical knowledge:* Write correct number sentences and answers to all four problems.
- *Strategic knowledge:* Identify important parts of all the problems; use appropriate steps to solve the problems.
- *Explanation:* Explain completely and clearly what was done to solve the problems and why.

Procedures

1. *In order to solve problems using systems of numbers and their properties (8C)*, students should experience sufficient learning opportunities to develop the following:
 - Apply the relationship of fact families to solve for an unknown quantity.
2. Have students review and discuss the assessment task and how the rubric will be used to evaluate their work.
3. Provide each student with a copy of the “Fact Families” recording sheet. Have students review and discuss the task to be completed and how the rubric will be used to evaluate their work.
4. Ask students to read each of the problems and calculate each answer. Problems may be read to the student if necessary. Remind students to write an explanation for each of the problems. Answer key:
 - (1) $7 \times \$6.00 = \42.00
 - (2) $42 \div 6 = 7$ roses
 - (3) $42 \div 7 = 6$ children
 - (4) $6 \times 7 = 42$ acorns
4. Evaluate each student’s performance using the rubric as follows and use the guide on the rubric to determine the performance level:
 - 4 = All problem solutions and number sentences were correct; all strategies were appropriate; all explanations/justifications were complete and accurate.
 - 3 = Problem solutions included minor calculation errors and number sentences were incorrect, but not both; most strategies were appropriate; most explanations/justifications were complete.
 - 2 = Most problem solutions included minor calculation errors and most number sentences were incorrect; some strategies were appropriate; most explanations or justifications were incomplete or inadequate.
 - 1 = Problem solutions and number sentences included major calculation errors; strategies were incomplete or inappropriate; explanations/justifications were inappropriate.
 - 0 = Task was not attempted.

Examples of Student Work not available

Resources

- Copies of the “Fact Families” recording sheet
- Mathematics Rubric

Time Requirements

- 30 minutes

Name _____ Date _____

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Directions: Solve the following problems and show all of your work. Write an explanation of what you did, and why you did each step. Be sure that a correct number sentence is part of each explanation you write.

1. Seven children want to go to a movie. Each ticket costs \$6.00. What is the total cost for the children to go to the movie?

2. You saw 42 roses in the florist shop. If you want to give the same amount of roses to six friends, how many roses will each friend receive?

3. Your teacher has 42 pencils. If she wants to give children seven pencils each, how many children will receive pencils?

4. Six of your friends went hunting for acorns. Each friend found seven acorns. How many total acorns did your friends find?