

MILES OF SMILES

Performance Standard 6B.C

Solve story problems using fact extensions accordingly:

- *Mathematical knowledge:* Write all number sentences for eight story problems and solve all them correctly.
- *Strategic knowledge:* Use appropriate methods to arrive at correct answers.
- *Explanation:* Explain completely and clearly all steps followed to solve each problem.

Procedures

1. *In order to investigate, represent, and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships (6B)*, students should experience sufficient learning opportunities to develop the following:
 - Demonstrate fluency with basic multiplication and division facts.
 - Solve multiplication and division number sentences and word problems.
 - Apply knowledge of basic multiplication facts (factors 0-10) to related facts (e.g., $3 \times 4 = 12$, $30 \times 4 = 120$, $300 \times 4 = 1200$).
2. Have students review and discuss the task to be completed and how the rubric will be used to evaluate it. Provide each student a copy of the “Miles of Smiles Recording Sheet.”
3. Ask students to read each story problem on the recording sheet, (If necessary, stories may be read to the students.) and write a complete number sentence that answers each question. Remind students to show all of their work and explain (either in written or oral form) how they solved each problem. Key to number sentences:
 - (1) $4 \times 3 = 12$
 - (2) $3 \times 40 = 120$
 - (3) $3 \times \$4.00 = \12.00
 - (4) $3 \times 4,000 = 12,000$
 - (5) $18 \div 6 = 3$
 - (6) $180 \div 6 = 30$
 - (7) $1,800 \div 6 = 300$
 - (8) $18,000 \div 6 = 3,000$
4. Evaluate each student’s work using the rubric as follows and use the guide on the rubric to determine the performance level:
 - 4 = All answers are correct with a correct number sentence recorded; all explanations are complete.
 - 3 = Recording of number sentences includes a minor calculation error or a minor error when recording the number sentence, but not both; explanations have some missing information.
 - 2 = Answers include a minor calculation error and an incorrect number sentence; explanation or justification of what was done is included, but not both.
 - 1 = Answers include a major error calculation and/or number sentence; explanation/justification is not appropriate to the task.
 - 0 = No attempt to complete any part of the task.

Examples of Student Work follow

Resources

- Copies of the “Miles of Smiles” recording sheet
- Mathematics Rubric

Time Requirements

- Two class periods

NAME _____ DATE _____

MILES OF SMILES RECORDING SHEET

Directions: Read each story problem carefully. Write a number sentence and correct answer for each problem. Show and explain how you solved each problem.

1. Tom took 3 friends to the ice cream shop. Each friend wanted an ice cream cone that had three scoops of ice cream. How many total scoops of ice cream did Tom and his friends get altogether?
2. Mary and her friend Sam pooled their money to buy three bags of marbles. Each bag contained 40 marbles. How many marbles did Mary and Sam buy?
3. Tonja needed material to make a new outfit. Each yard of material costs \$4.00. She needs 3 yards of material. How much will the material cost Tonja?
4. Felix learned that his dad's pick-up truck weighs 4,000 pounds. Two of Dad's friends have the same kind of truck. How much do the three trucks weigh all together?
5. Sue put 18 crayons in groups of 6. How many groups did she make?
6. There were 180 dogs at the dog show. They were divided into 6 groups. How many dogs were in each group?
7. Mike's family traveled 1,800 miles. They traveled the same number of miles each day for 6 days. How many miles did they travel each day?
8. Santa made 18,000 stops in 6 hours last Christmas Eve. How many stops did he make each hour?

Name _____

Date 4-23-01

Miles of Smiles Recording Sheet

Students: Read each story problem carefully. Have someone read the problem to you if you do not understand. Show and explain (in writing) how each problem was solved.

1. Tom took 4 friends to the ice cream shop. Each friend wanted an ice cream cone that had three scoops of ice cream. How many total scoops of ice cream did the children get altogether?

$5 \times 3 = 15$ scoops altogether.
 kids 5 scoops

First, I read the problem. I had to find out how many scoops of ice cream the students got altogether. I know there were 5 kids + our friends. I also know that they got 3 scoops of ice cream each. So 5 kids \times 3 scoops each = 15 scoops altogether.

2. Mary and her friend Sam pooled their money to buy three bags of marbles. Each bag contained 40 marbles. How many marbles did Mary and Sam buy?

3 bags \times 40 marbles in each bag = 120

First, I read the problem. I knew that $4 \times 3 = 12$. So I took 12 and added 90 to it. That gave me a total of 102 marbles in all.

3 bags \times 40 marbles in each bag = 120

20 marbles in all

Name _____

Date 4-23-01

Miles of Smiles Recording Sheet

Students: Read each story problem carefully. Have someone read the problem to you if you do not understand. Show and explain (in writing) how each problem was solved.

1. Tom took 4 friends to the ice cream shop. Each friend wanted an ice cream cone that had three scoops of ice cream. How many total scoops of ice cream did the children get altogether?

First ~~we~~ read the problem, I had to find out how many scoops of ice cream the children got all together. I knew there were 5 kids, Tom and 4 friends. I also knew they each got three scoops. So $5 \times 3 = 15$ scoops all together.

2. Mary and her friend Sam pooled their money to buy three bags of marbles. Each bag contained 40 marbles. How many marbles did Mary and Sam buy?

$40 \times 3 = 120$ marbles

First I read # 2. I had to find out how many marbles Mary + Sam bought. I knew that they bought 3 bags. I also knew that each bag had 40 marbles, so $40 \times 3 = 120$ marbles.