Who's the Big Tipper?

Purpose

Students will multiply decimals and discover rules for placement of the decimal point.

Materials

For the teacher: overhead projector, overhead markers, overhead calculator
For each student: paper, pencil, calculator, copy of Black Line Master (BLM) *Multiplying Decimals*
For each group of 3-4 students: copy of a menu from a restaurant, calculator, paper, pencil

Activity

A. Introduction

1. Tell students a story about a waitress named Sue who worked at Big Tip Cafe. Her favorite customer was Joe Bigpockets who always left her a 35% tip. He would ask her to add the tip to his bill when he came into the cafe.
2. Review with students that 35% can be written as a decimal, .35.

B. Teacher-Led Activity

1. Tell students that today the charge for Joe's meal totaled $6.95. Sue knew that she needed to multiply $6.95 by .35 to find the amount of the tip. She was not sure if she should add a tip of $2.43, $24.32, $243.25, $2432.50 or $24325.00.
2. Ask the students to think about which answer seems most reasonable.
3. Have students do the multiplication with paper and pencil, and then multiply on the calculator being sure to include the decimal points.
4. Give a few more examples of Joe's food total and figure the .35 tip as in the example above.
5. Lead students to come up with a rule for placement of decimal point in a multiplication problem. Students should conclude that by counting the number of decimal places of both numbers in the original problem, they find the number of decimal places in the product of those two numbers.

(continued)

connecting across the curriculum

English/ Language Arts
Have students write a story about a server in a restaurant working to get good tips from her customers. Include characters from the activity.

MEETING INDIVIDUAL NEEDS

For students requiring more of a challenge, have them create a "tip calculator" chart. Ask them to include 10% and 15% tips for dollar increments from $5.00 to $30.00.

Standards Link
6.2.8

Activity (continued)

C. Group Activity

1. Hand out menus.
2. List on the board the following: "Miss Priss: 10%," "John Small: 9%," "Freddy Free: 18%," "Adam Little: 11%," "George Thrifty: 8%," "Jan Curly: 15%."
3. Have students work in groups to first decide what each of the characters on the board ordered for lunch. Then figure what their tip would be.
4. Students should figure the tip first with paper and pencil and then check with calculator.

D. Homework

Have students complete the BLM *Multiplying Decimals.*

Classroom Assessment

Basic Concepts and Processes

During the activity and when reviewing the BLM, discuss the following questions with your students to gauge their understanding of the indicators:

I am thinking of two numbers. The first has 2 decimal places and the second has 3 decimal places. How many decimal places will be in the product of these two numbers?

What would a 10% tip on a total purchase of $1.00 be?

What would a 20% tip on a total purchase of $1.00 be?

Name: _____

Solve the following problems.
Check your answers with a calculator.

Multiplication of Decimals

1. 3.6×0.7

2. 0.7×7

3. 9.2×0.3

4. 6.9×0.7

5. 5.8×0.42

6. 5.8×0.79

7. 0.3×0.93

8. 1.4×0.29

9. 7.8×0.04

10. 48.08×19.192

11. 40.05×18

12. 31.1×17.911

Multiplication of Decimals

Teacher Directions

Distribute on copy of the BLM *Multiplication of Decimals* to each student. Have students work individually to complete the BLM. Allow them to check answers with a calculator.

Answer Key

1. 2.52	2. 4.9	3. 2.76
4. 4.83	5. 2.436	6. 4.582
7. 0.279	8. 0.406	9. 0.312
10. 922.75136	11. 720.9	12. 557.0321