SAMMY SLOWGOING TEACHER NOTES

SE 5.3E, 5.1A, 5.1B, 5.1C, 5.1D, 5.1E, 5.1G

Partial Products & the Standard Algorithm with Decimals

Purpose This Ramp Up activity helps students connect the models for multiplying decimals with more abstract methods for multiplying. Students are given problems which have been worked using two methods. But the solutions have blanks. Students must figure out the missing numbers to form correct solutions.

- ☐ Concrete Model
- ☑ Area Model
- ☑ Partial Products
- ☑ Standard Algorithm
- ☐ Estimation
- ☑ Solution
- ☐ Teacher-facilitated
- ☐ Small Group
- ☑ Intervention
- ☐ Challenge!

Setting Up For Instruction

- Make 1 copy of **Sammy Slowgoing** for each student.

How-To Guide

1. Put students in groups of 3–4. Hand out materials.
2. Have students work together to identify the missing numbers from each solution.

Thought Extenders

- What is the number written in expanded form?
- What is the partial product?
- Does your partial product make sense according to the value of the numbers?
- When you multiplied by a number smaller than one, did you get something smaller than what you started with?
- Did you add all the partial products to get the product?
- Does your addition of the partial products match the model that you drew?
- How do you write the decimal in expanded form?
- Is your product reasonably close to your estimate?

A Variety of Ways to Use Word Problems

- Have students make strip diagrams prior to solving the problems.
- Have students write an equation using words from the problem instead of numbers. Then replace the words with numbers and solve the problem.
- Have students write the equations using the numbers and variables before solving the problems.
- Have students change the question for the problem context.
- Split up the problem sets and use them as warmups on different days.
- Use a problem set when you have a few minutes before the end of the class.
- Set the problems up in a center.
- Make 1 copy of the activity and cut the problems apart. Put each problem in a different station. Have small groups rotate around the room to figure out which problems are correct and which are incorrect. Use **Sammy Slowgoing** as a recording sheet for the stations.

SAMMY SLOWGOING ANSWER KEY (PG. 1 OF 2)

Directions: Solve each problem by filling in the blanks for each model.

1 Sammy Slowgoing has a long heavy step. Every time he takes a step, he walks forward 2.3 meters. He is 8.4 steps away from the door. How many meters away from the door is Sammy?

Solution #1

	8	+ 0.4	
2	2 × 8 = 16	← 2 × 0.4 = 0.8	
+			
0.3	0.3 × 8 = 2.4	← 0.3 × 0.4 = 0.12	

16.0
0.8
2.4
+ 0.12
19.32

Solution #2

8.4
× 2.3
252
+ 1680
19.32

2 In the deep snow, Sammy Slowgoing has to wear his snow shoes and take smaller steps. He can only move 1.9 meters per step in his snow shoes. He has to walk 6.1 steps from his front door to his snowmobile. How many meters is the snowmobile from the front door?

Solution #1

6.1 = 6 + 0.1
× 1.9 = 1 + 0.9
0.09
5.4
0.1
+ 6.0
11.59

Solution #2

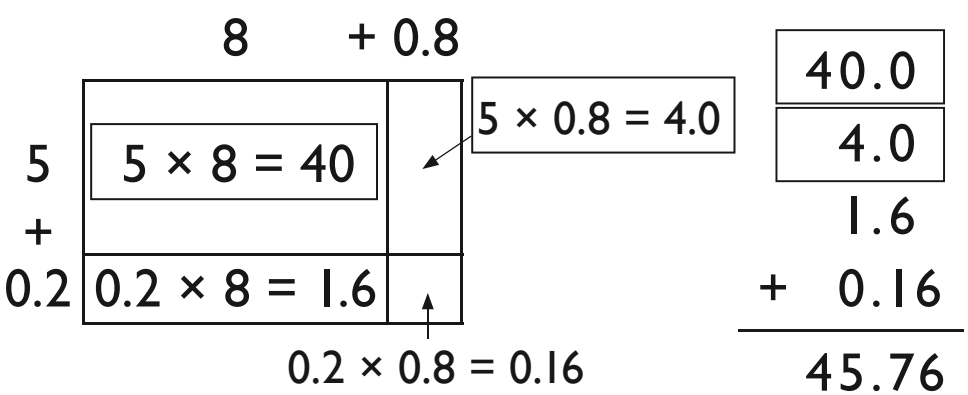
6.1
× 1.9
549
+ 610
11.59

SAMMY SLOWGOING ANSWER KEY (PG. 2 OF 2)

Directions: Solve each problem by filling in the blanks for each model.

3 The snowmobile can go 5.2 meters in a second. How far can it go in 8.8 seconds?

Solution #1



Solution #2

8.8 = 8 + 0.8
× 5.2 = 5 + 0.2

0.16
1.6
4.0
+ 40.0
45.76

4 When Sammy got off the snowmobile, he went inside and put on his running shoes. While running, Sammy can move 3.2 meters in a step. He has to run 9.6 steps to reach the finish line. How many meters away is the finish line?

Solution #1

9.6 = 9 + 0.6
× 3.2 = 3 + 0.2

0.12
1.8
1.8
+ 27.0
30.72

Solution #2

9.6
× 3.2
192
+ 2880
30.72

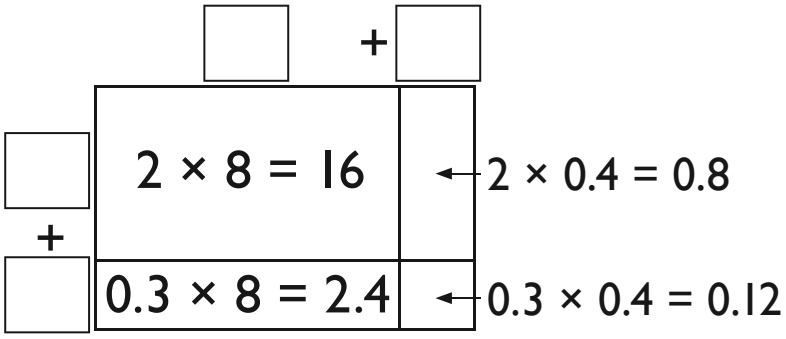
SAMMY SLOWGOING (PG. 1 OF 2)

Name: _____

Directions: Solve each problem by filling in the blanks for each model.

1 Sammy Slowgoing has a long heavy step. Every time he takes a step, he walks forward 2.3 meters. He is 8.4 steps away from the door. How many meters away from the door is Sammy?

Solution #1



16.0
0.8
2.4
+ 0.12
_____

Solution #2

×
_____
252
+ 1680
_____

2 In the deep snow, Sammy Slowgoing has to wear his snow shoes and take smaller steps. He can only move 1.9 meters per step in his snow shoes. He has to walk 6.1 steps from his front door to his snowmobile. How many meters is the snowmobile from the front door?

Solution #1

6.1 = 6 + ____
× 1.9 = ____ + 0.9
_____
0.09
_____
_____
+ 6.0
_____
11.59

Solution #2

6.1
× 1.9
_____
+ _____
_____
11.59

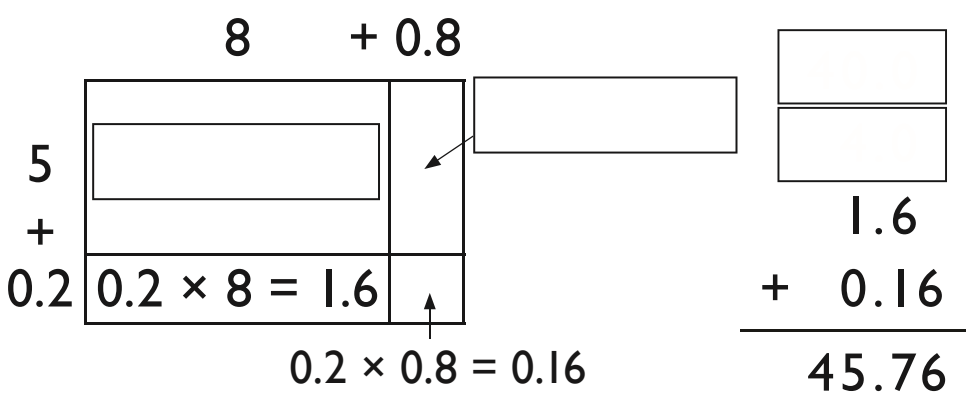
SAMMY SLOWGOING (PG. 2 OF 2)

Name: _____

Directions: Solve each problem by filling in the blanks for each model.

3 The snowmobile can go 5.2 meters in a second. How far can it go in 8.8 seconds?

Solution #1



Solution #2

8.8 = 8 + 0.8
× 5.2 = 5 + 0.2

0.16
1.6
+
45.76

4 When Sammy got off the snowmobile, he went inside and put on his running shoes. While running, Sammy can move 3.2 meters in a step. He has to run 9.6 steps to reach the finish line. How many meters away is the finish line?

Solution #1

= 9 + 0.6
× = 3 + 0.2

1.8
+ 27.0

Solution #2

×

+ 2880