



Additional Practice 4-9

Model with Math

Another Look!

The Franklin School library is made up of two rectangular regions, the Reading Room and the Computer Lab. What is the total area of the library?

Write an equation to represent this situation.
Let A represent the total area.

$$A = (24 \times 19.6) + (9.2 \times 8.5)$$

Multiply to find the area of each room.

$$\begin{array}{r} 24 \times 19.6 = 24 \times (196 \times 0.1) \\ = (24 \times 196) \times 0.1 \\ = 4,704 \times 0.1 \\ = 470.4 \end{array} \quad \begin{array}{r} 9.2 \\ \times 8.5 \\ \hline 0.10 \\ 4.5 \\ 1.6 \\ 72 \\ \hline 78.2 \end{array}$$

Add to find the total area.

$$\begin{array}{r} 470.4 \\ + 78.2 \\ \hline 548.6 \end{array}$$

The total area is 548.6 square meters.

You can use equations to apply the math you know to solve a problem.



Model with Math

Mrs. Gordon measured three rectangular rooms she wants to tile. What is the total area of the rooms?

- Describe the steps you would take to solve the problem.

Sample answer: Find the area of each room and then add the three areas.

- Write an equation to represent the problem.

Let A represent the total area.

$$A = (24.5 \times 16) + (15 \times 12.75) + (10.5 \times 10.5)$$

- What is the solution to the problem?

The total area of the rooms Mrs. Gordon measured is 693.5 square feet.

Family room	24.5 ft by 16 ft
Kitchen	15 ft by 12.75 ft
Laundry room	10.5 ft by 10.5 ft



✓ Performance Task

Trail Mix Sales

The table shows the number of bags of trail mix sold last month at Patsy's Pantry and Mo's Munch-and-Crunch. Each small bag of trail mix sells for \$5.87 at Patsy's Pantry and \$4.59 at Mo's Munch-and-Crunch. Which store earned more money from the sales of small bags of trail mix? How much more?

DATA Trail Mix Bag	Number of Bags Sold	
	Patsy's Pantry	Mo's Munch and Crunch
Small (1.5 lb)	31	40
Medium (3 lb)	14	68
Large (4.5 lb)	53	35

4. **Make Sense and Persevere** What are you asked to find?

Which store earned more money from the sale of small bags and how much more money that store earned

5. **Model with Math** Write and solve an equation to represent the total amount earned from the sale of small bags at Patsy's. Then write and solve an equation to represent the total amount earned from the sales of small bags at Mo's.

**Patsy's: $p = 31 \times 5.87 = \$181.97$;
Mo's: $m = 40 \times 4.59 = \$183.60$.**

6. **Be Precise** Which store earned more money from the sales of small bags of trail mix? How much more? Show your work.

**Compare: $\$183.60 > \181.97 ; Mo's earned more;
 $n = \$183.60 - \181.97 so $n = \$1.63$; Mo's earned \$1.63 more**

7. **Reasoning** At both Patsy's and Mo's, each medium bag of trail mix sells for \$8.49. Explain how to find which store earned more money from the sales of medium bags without doing the calculation.

Since the price is the same at both stores, the store that sold the greater number of bags of trail mix earned more money. Since $68 > 14$, Mo's earned more from selling medium bags.

You can model with math by using what you know about multiplying whole numbers to multiply decimals.

