



## Additional Practice 4-6

### Multiply Decimals Using Partial Products

#### Another Look!

If a truck travels 9.5 miles on 1 gallon of fuel, how many miles will the truck travel on 5.6 gallons of fuel?

#### Step 1

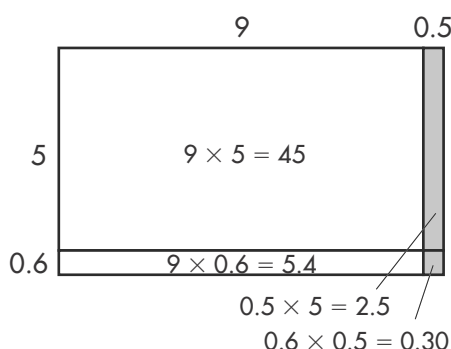
First, estimate your product so you can check for reasonableness.

$$\begin{array}{r} 9.5 \times 5.6 \\ \downarrow \quad \downarrow \\ 10 \times 6 = 60 \end{array}$$

Since 53.2 is close to the estimate 60, the answer is reasonable.

#### Step 2

Add all the partial products to find the answer. Use an area model if you need help keeping track of them.



$$\begin{array}{r} 9.5 \\ \times 5.6 \\ \hline .6 \times .5 = .30 \\ .6 \times 9 = 5.4 \\ 5 \times .5 = 2.5 \\ 5 \times 9 = 45 \\ \hline 53.20 \end{array}$$

The truck will travel 53.2 miles on 5.6 gallons of fuel.

1. If a truck travels 8.6 miles on 1 gallon of fuel, how many miles will the truck travel on 9.2 gallons of fuel? Estimate. Then, find the product. Is your answer reasonable? Explain.

Estimate:

$$\begin{array}{r} 8.6 \times 9.2 \\ \downarrow \quad \downarrow \\ \square \times \square = \square \end{array}$$

$$\begin{array}{r} 8.6 \\ \times 9.2 \\ \hline \square \square \square \\ \square \square \square \\ \square \square \square \\ + \square \square \square \square \\ \hline \square \square \square \square \end{array}$$

In 2–9, estimate first. Then multiply using partial products. Check that your answer is reasonable.

2.  $\begin{array}{r} 0.2 \\ \times 4.6 \\ \hline \end{array}$

3.  $\begin{array}{r} 3.9 \\ \times 7.1 \\ \hline \end{array}$

4.  $\begin{array}{r} 5.4 \\ \times 0.1 \\ \hline \end{array}$

5.  $\begin{array}{r} 15.3 \\ \times 6.4 \\ \hline \end{array}$

6.  $9.3 \times 5.8$

7.  $23.7 \times 4.4$

8.  $0.8 \times 0.5$

9.  $13.2 \times 0.3$



10. Find the approximate length of each highway in kilometers.

One mile is about 1.6 kilometers.

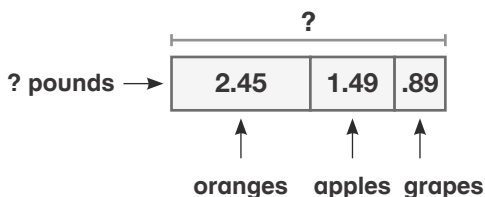


Highway	Length (miles)
A	11.9
B	46.2
C	121

11. **Higher Order Thinking** Why does multiplying numbers by 10 move the decimal point to the right, but multiplying by 0.10 moves the decimal point to the left?

12. **Make Sense and Persevere** A pick-your-own pecan farm charges \$1.35 per pound of pecans plus \$0.40 per pound to crack the pecans. Amelia picks 20 pounds of pecans. The farm cracks 5 pounds for her. How much does Amelia pay all together?

13. Adrian bought fruit to make a salad for a picnic. He bought 0.89 pound of grapes, 2.45 pounds of oranges, and 1.49 pounds of apples. What is the weight of the fruit?



14. In exercise 13, suppose grapes cost \$2.35 per pound, oranges cost \$0.99 per pound, and apples cost \$1.65 per pound. Rounding to the nearest whole number, about how much did Adrian pay for all the fruit?

### Assessment Practice

15. Karly used 3.5 cans of tomato sauce to make lasagna. Each can contains 10.5 ounces. How many ounces of tomato sauce is in the lasagna?

- (A) 24.00
- (B) 36.75
- (C) 52.50
- (D) 63.00

16. A bag of grass seed weighs 5.8 pounds. How many pounds would 2.5 bags weigh?

- (A) 14.5 pounds
- (B) 13.8 pounds
- (C) 8.3 pounds
- (D) 3.3 pounds