

Number Sense: Decimal Multiplication

Amelia can walk 3.6 miles in one hour. How far will she walk in 2.1 hours?

Step 1. Estimate

$$3.5 \times 2 = 7$$

Step 2. Compare each factor to 1 to determine the relative size of the product.

$$\begin{aligned} 3.6 &> 1 \\ 2.1 &> 1 \end{aligned}$$

Because both factors are greater than 1, your answer will be greater than both factors.

Step 3. Multiply as you would with whole numbers. Use reasoning to place the decimal appropriately.

$$\begin{array}{r} 3.6 \\ \times 2.1 \\ \hline 36 \\ 720 \\ \hline 7.56 \\ \uparrow \end{array}$$

Amelia will walk 7.56 miles in 2.1 hours.

Solve. Check your answer for reasonableness.

1.
$$\begin{array}{r} 1.6 \\ \times 0.3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 0.8 \\ \times 0.2 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 12.8 \\ \times 3.2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 0.03 \\ \times 6 \\ \hline \end{array}$$

5. Explain why $0.3 \times 0.9 \neq 2.7$. What is the correct answer?

6. **Mental Math** Estimate the product of 3.9 and 4.6 using mental math. Explain the method you used.

Name _____

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For 1-8 only two numbers of the product are shown. Also, the decimal point is missing. Complete the product and place the decimal point where it should be. Round your answer to the nearest hundredth.

1. $0.4 \times 0.6 =$ 2 4

5. $0.2 \times 0.8 =$ 1 6

2. $3.6 \times 4.1 =$ 1 4

6. $4.04 \times 3 =$ 1 2

3. $9.01 \times 8.3 =$ 7 4

7. $11.6 \times 3.4 =$ 3 9

4. $4.06 \times 20.1 =$ 8 1.

8. $7.8 \times 0.1 =$ 7 8

For 9-12 complete the operation and explain why you placed the decimal point where you did.

9. $1.8 \times 0.3 =$ _____

10. $0.2 \times 0.7 =$ _____

11. $12.4 \times 3.1 =$ _____

12. $9.5 \times 3 =$ _____
