# Chapter 9

# MULTIPLYING DECIMALS

When multiplying decimals, you don't need to line up the decimals. In fact, you don't have to think about the decimal point until the very end.

## Steps for multiplying decimals:

1. Multiply the numbers as though they were whole numbers.

2. Include the decimal point in your answer—the number of decimal places in the answer is the same as the total number of digits to the right of the decimal point in each of the factors.

INTEGERS YOU ARE MULTIPLYING

**EXAMPLE:** 4.24 x 2.1

$$\begin{array}{r} 4.24 \\ \times 2.1 \\ \hline 424 \\ 848 \\ \hline 8904 \end{array}$$

YOU DON'T NEED TO LINE UP DECIMALS!

The total number of decimal places in 4.24 and 2.1 is 3, so the answer is 8.904.

Let's try it again:

**EXAMPLE:** Bruce jogs 1.2 kilometers per minute. If he jogs for 5.8 minutes, how far does he jog?

$$\begin{array}{r} 1.2 \\ \times 5.8 \\ \hline 96 \\ 60 \\ \hline 696 \end{array}$$

The total number of decimal places in 1.2 and 5.8 is 2, so the answer is 6.96 kilometers.

When counting decimal places, don't be fooled by zeros at the end—they don't count.

0.30 ← CAN'T BE COUNTED

0.30 = 0.3 (only 1 decimal point)

# CHECK YOUR KNOWLEDGE

1. $5.6 \times 6.41$
2. $(3.55)(4.82)$
3. $0.350 \cdot 0.40$
4. $(9.8710)(3.44)$
5. $(1.003)(2.4)$
6. $310 \times 0.0002$
7. $0.003 \times 0.015$
8. The price of fabric is $\$7.60$ per meter. Lance bought $5.5$ meters of fabric. What was the total cost?
9. Each centimeter on a map represents $3.2$ meters. How many meters do $5.04$ centimenters represent?
10. A gallon of gas costs $\$2.16$. Rob buys $13.5$ gallons of gas. How much did he pay?

ANSWERS

# CHECK YOUR ANSWERS

1. 35.896
2. 17.111
3. 0.14
4. 3395624
5. 2.4072
6. 0.062
7. 0.000045
8. $41.80
9. 16.128 meters
10. $29.16