Ratio Reasoning: Convert Measurements Between Systems

Use a conversion factor to change a measurement between the customary and metric systems.

Name _____ **Date** _____

Tonight's spark

On a road trip in Canada, a highway sign says 100 kilometers per hour. Back home, the sign says miles. Is 100 kilometers per hour faster or slower than 100 miles per hour?

Make a guess first: which is longer, a mile or a kilometer?

Kilometers	Miles	
1	0.6	
10	6	×10
100	60	×10

Our class model: the factor 1 km ≈ 0.6 mile

Try it

Work it out on paper. Write one answer on each line.

1 **1 inch = 2.54 centimeters. How many centimeters is 2 inches?**

A. 5.08 **B.** 1.27 **C.** 4.54 **D.** 2.54

My answer _____

2 **Use 1 kilometer ≈ 0.6 mile. About how many miles is 20 kilometers?**

A. 20.6 **B.** 120 **C.** 12 **D.** 0.6

My answer _____

3 **Use 1 kilogram ≈ 2.2 pounds. About how many pounds is 5 kilograms?**

A. 7.2 **B.** 11 **C.** 2.2 **D.** 110

My answer _____

4 **Use 1 gallon ≈ 3.8 liters. About how many liters is 2 gallons?**

A. 5.8 **B.** 7.6 **C.** 3.8 **D.** 1.9

My answer _____

5 **Which conversion is rounded, so it needs the ≈ symbol?**

A. 1 foot and 12 inches **B.** 1 yard and 3 feet **C.** 1 inch and 2.54 centimeters

D. 1 kilometer and 0.6 mile

My answer _____

6 **Use 1 meter ≈ 3.3 feet. About how many feet is 10 meters?**

A. 33 **B.** 13.3 **C.** 3.3 **D.** 330

My answer _____

Talk about it

Is the number of miles bigger or smaller than the number of kilometers, and how do you know?

Home mission

Find a ruler with inches on one edge and centimeters on the other. Ask your student: which unit is longer? Link it to the road sign. A mile is longer than a kilometer. Should the number of miles be smaller or bigger?

If we get stuck, ask

- Which system is each measurement from?
- Which unit is bigger?
- Should your answer be a bigger or smaller number?

Do it on a screen

Scan or type the link. Same lesson, with hints.

eduwonderlab.com/lessons/3-7/homework.html

How did it feel? (optional)

Tricky Getting there Got it