

## Practicing Measurement Skills 2

Pick up a metric ruler and look carefully at the scale. You will see lots of little lines and every so often a much longer line marked with a number. The longer lines are centimeter (cm) marks, and the shorter lines are one-tenth of a centimeter (0.1), or millimeter, lines.

- Using your metric ruler, draw a line that is 3 centimeters long.
- Draw a line that is 7 centimeters long.
- Draw a line that is 1 centimeter long.
  - Now draw a line that is 10 millimeters long.

How many millimeters are there in 1 centimeter? \_\_\_\_\_

- What part of a centimeter is 1 millimeter? \_\_\_\_\_

The metric ruler can measure distance easily in millimeters or centimeters. If you want to measure in millimeters, just multiply the numbers on the scale by 10. For example, the line marked 7 now becomes 70.

- Measure the length of the following line in mm.

\_\_\_\_\_

Length = \_\_\_\_\_ mm

- Measure the length of the following line in mm.

\_\_\_\_\_

Length = \_\_\_\_\_ mm

To measure distances between two numbers on the number scale, count the millimeter, or smaller, lines between the numbers as tenths of a centimeter (0.1). For example, look at Figure 1. The arrow is pointing to a millimeter line between 5 and 6 centimeters. You will notice that this millimeter line is the third line beyond the 5 centimeters. If each millimeter line is 0.1 centimeter, then 3 millimeter lines is 0.3 centimeter. Now, add 5 centimeters to the 0.3 centimeter. The answer is 5.3 centimeters.

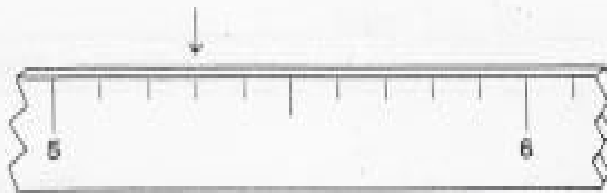


Figure 1

7. a. Measure the length of the following line in cm.

\_\_\_\_\_

Length = \_\_\_\_\_ cm

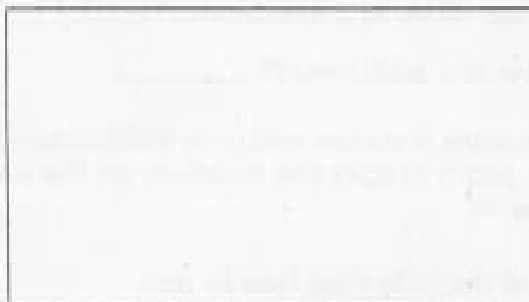
- b. Measure the length of the following line in cm.

\_\_\_\_\_

Length = \_\_\_\_\_ cm

8. You have just seen how easy it is to measure distance in centimeters or millimeters. Measure the length and width of Figure 2 in centimeters and millimeters.

Figure 2



Length = \_\_\_\_\_ cm = \_\_\_\_\_ mm

Width = \_\_\_\_\_ cm = \_\_\_\_\_ mm

If you look over the work you have done, you should be able to answer the following questions without redoing any measurements.

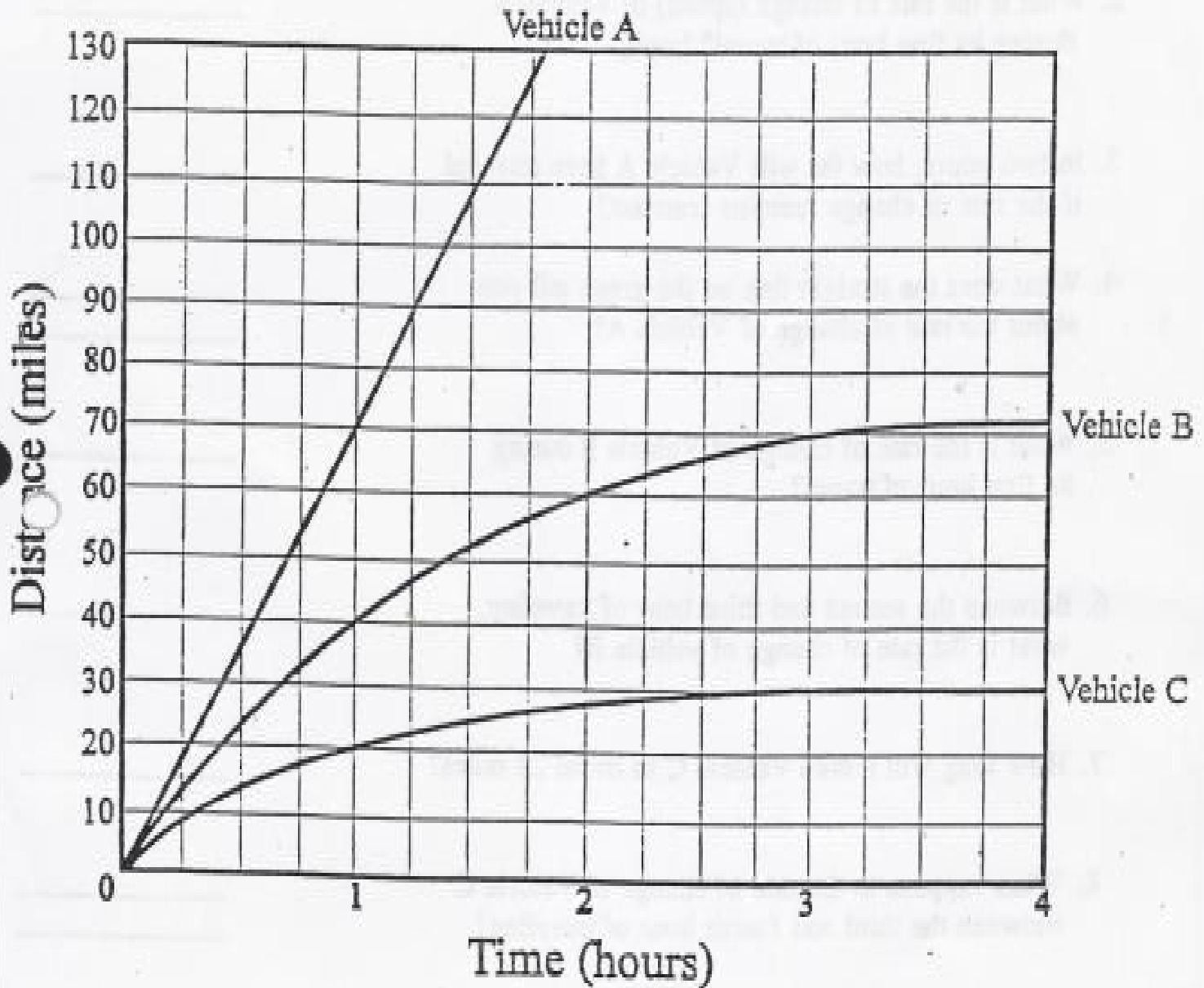
9. a. How do you change a measurement from centimeters to millimeters?

\_\_\_\_\_

- b. How do you change a measurement from millimeters to centimeters?

\_\_\_\_\_

# Speeds (rates of change) of Vehicles A, B, and C



Use this graph to answer questions 1-10 on the following page.

## Graphing Review Worksheet

Directions: Use the graph on the previous page to answer the following questions.

1. How far will Vehicle A travel after 30 minutes? \_\_\_\_\_
2. What is the rate of change (speed) of Vehicle A during its first hour of travel? (mph) \_\_\_\_\_
3. In two hours, how far will Vehicle A have traveled if the rate of change remains constant? \_\_\_\_\_
4. What does the straight line on the graph tell you about the rate of change of Vehicle A? \_\_\_\_\_  
\_\_\_\_\_
5. What is the rate of change of Vehicle B during its first hour of travel? \_\_\_\_\_
6. Between the second and third hour of traveling, what is the rate of change of vehicle B? \_\_\_\_\_
7. How long will it take Vehicle C to travel 25 miles? \_\_\_\_\_
8. What happens to the rate of change of Vehicle C between the third and fourth hour of traveling? \_\_\_\_\_  
\_\_\_\_\_
9. Which is the independent variable? \_\_\_\_\_
10. Explain how you can look at this graph and immediately know which vehicle has the greatest rate of change? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_