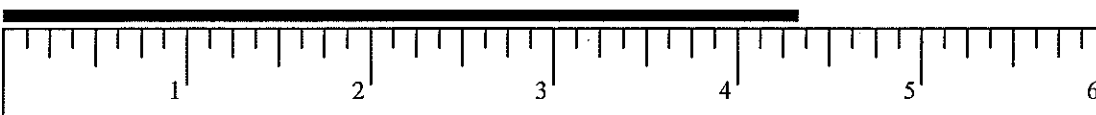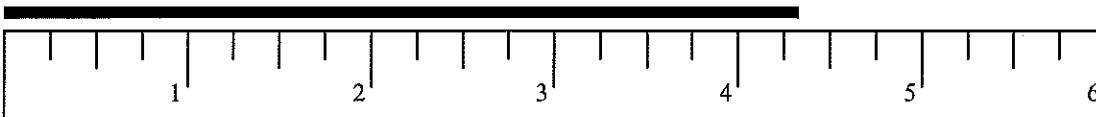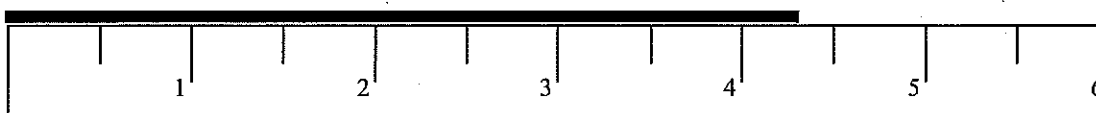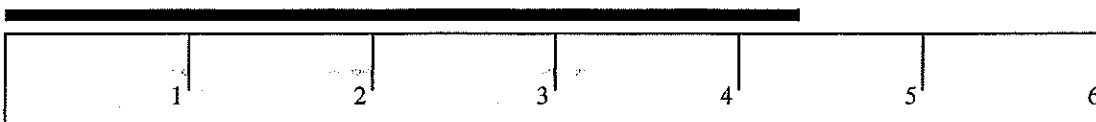How long is this line segment?

Use the rulers shown to find the segment length, then answer the questions below.
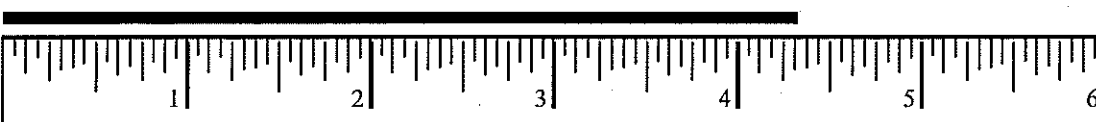
Questions for students:
(a) Which ruler do you think is going to provide the most precise measurement? Why?
(b) What degree of precision is each of the rulers going to provide?
(c) For each ruler, identify the number of sections into which each inch is divided.
(d) Write the measurement of the line segment next to each ruler. Your answer should be based on the closest mark to the end of the segment.
(e) Is there such a thing as an "exact measurement?" Explain.

Directions: Use your rulers to measure each of the following segments to the nearest 1/16 of an inch. Make your measurements as accurately as you can. After all measurements are made, compare your answer to other students in your group. A class discussion of the findings will follow.

1. _____   _____

2. _____   _____

3. _____   _____

4. _____   __

5. _____   _____

6. _____   _____

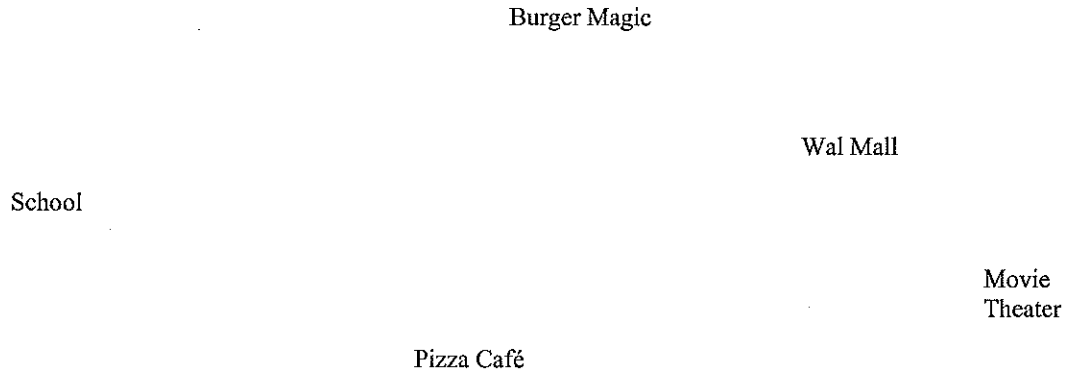7. _____   _____

8. _____   _____

9. _____   _____

10. _____ ➘

_____

1. The map below shows several places on a map. It is drawn to scale, which means that for every so many units long on the map, we get so many units long in real life. For our map, we used the following scale: 1/16 inch represents 6 miles. Use this scale and your ruler to answer the following questions.

Burger Magic

Wal Mall

School

Movie
Theater

Pizza Café

(a) How far is it from Wal Mall to the School on the map? _____
(measured distance, not actual distance)

(b) How many "sixteenths" are in every inch? _____

(c) How many miles does each <u>inch</u> represent? _____
Explain your reasoning.

(d) How many "sixteenths" of an inch are in the measurement you made in question (a)? _____

(e) How far in "real-life" is it from Wal-Mall to School?
_____ How did you determine this?

(f) Do you think the places on the map are in the same town? Explain how you know.

(g) Which is closer to the Pizza Café—Wal Mall or School?
_____ How much closer is it? _____
Show what you did to figure this out.

(h) Fill out the following table which shows the measured and actual real-life distances from one place to another on the map.

Starting Point	Destination	Measured Distance (in)	Actual Distance (miles)
School	Wal Mall		
Burger Magic	Movie Theater		
School	Burger Chef		

(i) Using the table you made, if someone traveled from School to Burger Magic, then from Burger Magic to the Movie Theater, how far would he/she have traveled?

_____

(j) Gas costs $1.19 a gallon. If the car used to travel in this problem holds 12 gallons of gas and gets 24 miles per gallon, how much would it cost to fill the gas tank?

_____

How many miles could the car travel before needing a fill-up? _____
Explain how you got both answers.

(k) There is an historical monument 60 miles south of Burger Magic. Draw where the monument is located. Label it on the map. How far away, in inches, is the monument on the map? _____ Explain how you determined this.