

Distance/displacement Lab Period\_\_\_\_\_ Name\_\_\_\_\_

Purpose: to distinguish between distance and displacement, and to practice measurement techniques.

Procedure: using the following map and points marked thereupon, follow directions and calculate distance and/or displacements as asked for.

Materials: Pencil Ruler Lab sheet

Data:

Using the map's scale, determine all distances in meters:

1) (a) from Mom's house to the library. \_\_\_\_\_

(b) from the post office to the school. \_\_\_\_\_

2) What is the displacement from Mom's house to the library?(in meters)

3) What is the displacement from the post office to the school?

4) If Mom went from the library to the gas station and then to school, what distance did she travel?

What was her displacement?

Why is there a difference?

5) If she goes from home, to the library, then to school, then back home, what distance was traveled?

What was her displacement?

6) Consider Mom's distance trip from #4 : (she stays ON the road!)

(a) since this is a right triangle, compute her displacement using Pythagorean's theorem.

(b) Did this vary from your answer to #4b?

7) What is the main difference between distance and displacement on a straight trip?

What are the differences if we change directions during our trip?

Why do we care about these differences?

