

Name: \_\_\_\_\_  
Lab Partner(s): \_\_\_\_\_

Date: \_\_\_\_\_  
Period: \_\_\_\_\_

LAB #3: 7 ½ minutes to win it!

**Introduction:** Topographic maps are used to show the 2D elevation change of Earth's surface. These maps can show hills, mountains, rivers, volcanic craters and even mines and caves! In this lab, you will use the topographic map to determine elevation for several routes and to create a profile showing elevation.

**Experimental Question:** How can you use a topographical map to interpret information about an area? *Answer in complete sentences.*

**Hypothesis:**

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**Materials:** string, paper, map

**Procedure:**

1. Take a piece of paper and lay it on the picture below so that it intersects **Purchase to Green Valley Country Club**
2. On this piece of paper, draw a small line at each place where a contour line intersects the line from **Purchase to Green Valley Country Club**. Also, note the elevation at each hash mark and any rivers crossed.
3. Take your paper where you marked your lines and place it along the base of Table A.
4. Make a corresponding dot on the table for each elevation
5. Connect the dots to create a topographic profile
6. Use the map to answer the following questions. Be sure to check the map's scale.
7. Use the string to measure the distances between 2 points that are not in a straight line. Lay the string along curves, and then measure the distance by laying the string along the scale. Remember that elevations on United States Geological Survey (USGS) maps are given in feet.



**Analyze and Conclude:**

1. What is the range of latitude on the map?
2. What is the range of longitude on the map?
3. What is the contour interval?
4. Identify what type of scale the map uses.
5. What is the highest elevation on the map?
6. What is the lowest elevation on the map?
7. Locate 2 lakes on the map and list them here:  
\_\_\_\_\_
8. What is the highest possible elevation of:
  - a. Great Island:
  - b. Cooney Hill:
9. What is the elevation of:
  - a. Manhattanville College:
  - b. North Street School:
  - c. Round Hill Country Club:
  - d. Purchase:
10. Which way does Byram River flow?
  - a. Give evidence to support this statement.

11. Why might there be a depression in White Plains on the SW part of the map?

12. Locate US MIL RES in Silver Lake Preserve on the West side of the map between <sup>45</sup> 48 and <sup>45</sup> 45. If you started at the unimproved dirt road on the hill of US MIL RES and walked down the trail until you intersected the Medium-duty road:

a. How far would you have walked? *Use your string*

1. In miles:
2. In kilometers:

b. What is the change in elevation?

c. Analyze: What is the straight line distance *in miles* between the two points?

d. Using your answers from b and c, find the gradient of the trail. Write your answer in ft/mi.

**Table A:**

360		360
350		350
340		340
330		330
320		320
310		310
300		300
290		290
280		280
270		270
260		260
250		250
240		240
230		230