

Discovering GIS and ArcGIS
Chapter 11

Name: _____

Question 11.1: Use the Identify Tool to familiarize yourself with each of the 16 libraries. Briefly sketch out the locations of the 15 points, as well as their names (i.e., Austintown, Boardman, Brownlee Woods, etc) and the initial number assigned to each one. You are doing this for your own reference in future questions.

Question 11.2: How long is the best route between the stops in miles? (Important Note: The length being reported back from Network Analyst is in the units of the network, which are feet.)

Question 11.3: In examining the driving directions, do you see any particular directions that seem non-intuitive to a driver? (*Hint:* Chances are you're unfamiliar with driving throughout Mahoning County, Ohio. However, look for any directions that drivers may be unlikely to take, such as switching to an interstate for very short distances, or similar kinds of activities.) Why would ArcGIS provide these kinds of directions?

Question 11.4: How long is this new best route (libroute2) between the libraries (in miles)?

Question 11.5: How does libroute2 differ from libroute1 (and not just "it's shorter" or "it's longer"; how specifically has the route itself changed in relation to the stops and the computed path)?

Question 11.6: How long is this new best route (libroute3) between the stops (in miles)?

Question 11.7: How is the arrangement of stops different among the three routes? (That is, which stop is visited first, which is visited second, and so forth in each of the three routes? List them as #1 through #15 for each route.)

Question 11.8: You have three shortest paths between the libraries. What is so special about the specific route taken by libroute3 to make it the shortest of the three?

Question 11.9: What is the length (in miles) of libroute4 with these barriers?

Question 11.10: How did the ordering of the stops change because the barriers were added (i.e., what is the new ordering of the stops—which is first, which is second, and so on)?

Question 11.11: Why did ArcGIS compute this new order of the stops (in Question 11.10) because of the barriers being added?

Question 11.12: How (specifically) did the path between West and Main change?

Question 11.13: How (specifically) did the path going and coming from Springfield change?

Question 11.14: Are there any overlapping service areas? If so, which libraries have overlapping areas within the 1-mile regions? (Your answer may be something like “Austintown Library and Main Library overlap service areas within 1 mile.”)

Question 11.15: Which library is considered the closest facility for Cardinal Mooney High School?

Question 11.16: Which library is considered the closest facility for Ursuline High School?

Step 11.8 section:

Print a layout or publish a Web map of the final results.