**Introduction**

Triangulation is a technique used to determine an unknown location based on its distance from three known points. In this activity, you will use triangulation to determine the location of a mystery point in the United States by using three known distances from three known reference points

**Materials**

**Per student**

* Pencil

**Per pair of students**

* Drafting compass
* Map
* Ruler

**Procedure**

With your partner, observe the map provided to you. Identify the three reference points (A, B, and C) marked on the map. In the legend box, find the distances from the mystery location to each reference point. Using a ruler, a drafting compass and the map, answer the following questions and to fill our table 1.

Map ID \_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
|  | Latitude | Longitude |
| A |  |  |
| B |  |  |
| C |  |  |
| Mystery Location |  |  |

What state is the mystery location in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How did you determine the mystery location?

Did all three circles overlap at one point exactly, or did you have to estimate?

**Conclusion**

1. How does this activity relate to GPS technology?
2. Why is having at least 3 reference points important for triangulation?

1. What would happen if you only had two reference points?

1. If you were given a fourth reference point, how would that impact the accuracy of your results?