Distance between Two Points

The most common use of geographic coordinates is to measure a linear distance between two locations. For example, this can be done to calculate the length of a fence, plan a trip, or create a projected map.

Helper's Guide

How to Prepare

Prepare one or more sets of geographic coordinate with corresponding "true" distance between points to be used in case outdoor part of the exercise is not feasible. Each coordinate must have either 5 (most handheld GPS receivers) or 6 (if possible) decimal digits to provide necessary measurement resolution. Make sure to note an approximate elevation and determine F_{lon} and F_{lat} for the specified location.

Work with students to explore other situations when Pythagoras theorem can be used in everyday life. For example, illustrate distance calculation based on horizontal distance and height (e.g., what is the length of a pathway to claim a mountain of certain height when certain horizontal distance is obtained from a map).

Need to Emphasize

- Longitude denotes X value and latitude denotes Y value in terms of rectangular coordinates.
- Pythagoras theorem has many applications in everyday life.
- Distance can be specified using several alternative units.

Related Links

- http://en.wikipedia.org/wiki/Pythagorean_theorem

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