1. To get from point A to point B you must avoid walking through a pond.  To avoid the pond, you must walk 34 meters south and 41 meters east.  To the *nearest* *meter*, how many meters would be saved if it were possible to walk through the pond?
2. A suitcase measures 24 inches long and 18 inches high.  What is the diagonal length of the suitcase to the *nearest tenth* of a foot?
3. In a computer catalog, a computer monitor is listed as being 19 inches.  This distance is the diagonal distance across the screen.  If the screen measures 10 inches in height, what is the actual width of the screen to the *nearest inch*?
4. Two joggers run 8 miles north and then 5 miles west.  What is the shortest distance, to the *nearest tenth* of a mile, they must travel to return to their starting point?
5. You walk 749 feet due east to the gym from your home. From the gym you walk 800 feet southwest to the library. Finally, you walk 305 feet from the library back home. Do you live directly north of the library? *Explain.*
6. You are setting up a volleyball net. To stabilize the pole, you tie one end of a rope to a pole seven feet from the ground. You tie the other end of the rope to a stake that is four feet from the pole. The rope between the pole and stake is about 8 feet 4 inches long. Is the pole perpendicular to the ground?
7. On a map of the United States, you put a pushpin on three state capitols you want to visit: Jefferson City, Missouri; Little Rock, Arkansas; and Atlanta, Georgia. Jefferson City is 546 miles from Atlanta and 266 miles from Little Rock. Little Rock is 459 miles from Atlanta.
   1. Draw a diagram to model the triangle connecting all three cities.
   2. Do the pushpins form a right triangle? If not, what type of triangle do they form?
8. A treasure map tells you to walk 30 paces east from the abandoned shack, then 20 paces north, 6 paces west, and then another 25 paces north to find the hidden treasure. What is the direct distance from the abandoned shack to the treasure?

Answers (in a pseudo-random order)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 9.4 miles | No | No | 22 m | 51 paces | 2.5 ft | 16 inches | No, obtuse |