

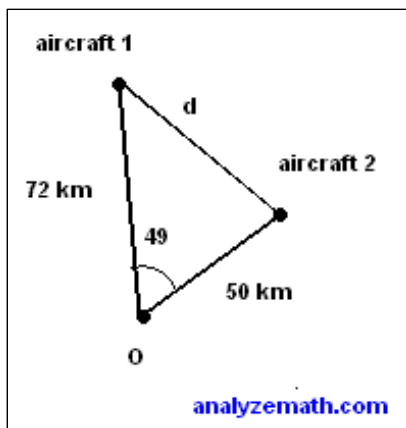
MATH. 125, QUIZ 13 - Section 6.2 (25points = 5% final grade)

You are allowed to use a calculator but you still have to show your work step by step (like in the book) not just write the final answer.

1. (5 points) Sides of a triangle are of length $10ft$, $5ft$, and $7ft$. Find the angle between the two longest sides.(round answers to 1 decimal place).

Answer: Use Law of Cos to get 27.7°

2. (7 points) An aircraft tracking station determines the distance from a common point O to each aircraft and the angle between the aircrafts. If angle O between the two aircraft is equal to 49° and the distances from point O to the two aircraft are 50 km and 72 km , find distance d between the two aircrafts.(round answers to 1 decimal place).



Answer: Use the Law of Cos to get 54.4 km .

3. (7 points) A triangle has sides equal to 4 m , 11 m and 8 m . Find its area (round answers to 1 decimal place).

Solution based on the Heron formula

$$s = \frac{4 + 11 + 8}{2} = 11.5$$

so

$$\text{Area} = \sqrt{11.5(11.5 - 4)(11.5 - 11)(11.5 - 8)} = 12.3\text{ m}^2$$

4. (7 points) A ship leaves port at 1 pm traveling north at the speed of 30 miles/hour . At 3 pm, the ship adjusts its course 20° eastward. How far is the ship from the port at 4pm? (round to the nearest unit).

Solution based on the Law of Cos: 89 miles .