

Two airplanes leave the same airport at the same time. After completing their take-offs, the planes assume flight paths that form an angle of 55° . Their speeds are 450 mi/h and 600 mi/h. How far apart, to two significant digits, are the planes after 2 h?

The lengths of the three sides of a triangular lot are 40 m, 50 m, and 80 m. Find, to the nearest degree, the measure of the largest angle of the triangular lot.

The angle of elevation to the top of a mountain from a point P on the ground is $24^\circ 10'$. The angle of elevation from a point Q directly in line with P and 1,350 ft closer is $61^\circ 40'$. Find the height h of the mountain to three significant digits.

A ship is sailing due north. The captain observes that the bearing of a lighthouse is 40. After sailing 60 km, the captain sees that the bearing of the lighthouse has become 135. How far, to two significant digits, is the ship from the lighthouse now?

To determine the distance AB across a steep canyon, Megan walks 600 yd from B to another point, C. She then finds that $m \angle ACB = 35$ and $m \angle CBA = 106$. Find AB.

The distance between Towns A and B is 56 mi. The angle formed by the road between Towns A and B and the road between Towns A and C measures 46. The angle formed by AB and BC measures 115. Find the distance between Town B and Town C.

On a ship sailing north, a woman notices that a hotel on shore has a bearing of 20. A little while later, after having sailed 40 km, she observes that the bearing of the hotel is now 100. How far is the ship from the hotel now?

A ship is steaming south. The navigator notices that the bearing of a lighthouse is 120. After moving 8.0 mi/h for 2 h, he observes that the bearing of the lighthouse is 25. Find his distance from the lighthouse at the time of the second sighting.

Bill determines that the angle of elevation to the top of a building measures $40^\circ 30'$. If he walks 102 ft closer to the building, the measure of the new angle of elevation will be $50^\circ 20'$. Find the height of the building to three significant digits.

After two airplanes left the same airport at the same time, their flight paths formed an angle measuring 125. The first flew at 550 mi/h and the second flew at 620 mi/h. How far apart were they after 3 h?

A baseball diamond forms a square 90 ft on a side. The pitcher's mound is 60 ft from home plate. How far is it from the mound to third base?

The sides of an isosceles triangle have lengths 18, 18, and 10. Find the measure of the smallest angle of the triangle.

The length of the radius of a circle is 10. Two radii, OA and OB, form an angle of measure $109^\circ 30'$. Find the length of chord AB.

A triangular lot has side lengths of 16 m, 26 m, and 38 m. Find the measure of the largest angle of the lot.

The diagonals of a parallelogram bisect each other. If their lengths are 8.0 and 10 and they intersect at an angle of $20^\circ 40'$, how long are the sides?

9a →

3a →