

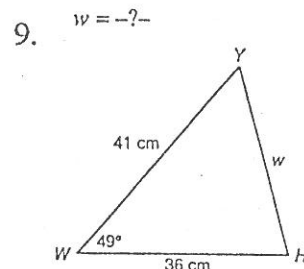
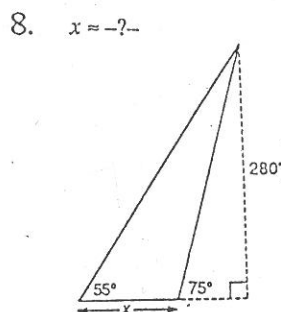
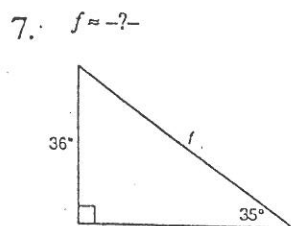
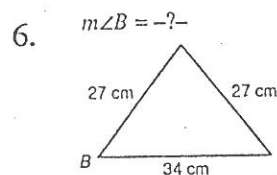
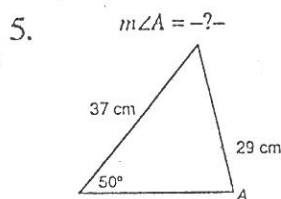
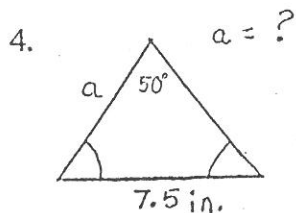
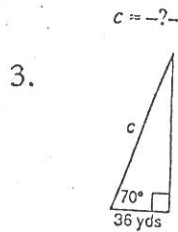
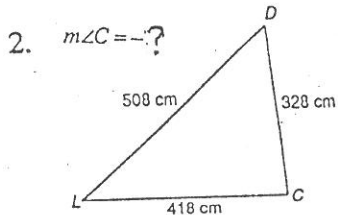
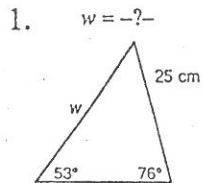
# 8.5 RWS

Your Mission: Solve each of these triangle problems

Your Tools: Regular Trig, Law of Sines or Cosines, Pythag.

Initials: \_\_\_\_\_

Find each missing part of the triangle.

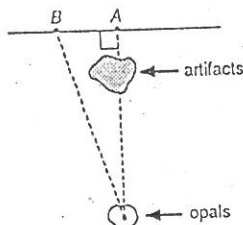


10. A ship is sighted from two radar stations 43 km apart. The angle between the line segment joining the two stations and the radar beam of the first station is  $37^\circ$ . The angle between the line segment joining the two stations and the beam from the second station is  $113^\circ$ . How far is the ship from the second station?

11. From the top of a lighthouse, 210 feet high, the angle of depression of a boat is  $27^\circ$ . Find the distance from the boat to the foot of the lighthouse. The lighthouse was built at sea level.

12. A pocket of opal matrix is known to be 24 meters below point  $A$ . The Outback Mining Company, however, is unable to dig straight down because of sacred aboriginal artifacts buried a few meters below the surface. The company has been given permission to dig at point  $B$ , 8 meters over from point  $A$ . At what angle to the level surface must the mining crew dig to reach the opal matrix? What distance must they dig?

13. A Coast Guard patrol boat has spotted a hovering helicopter dropping a package near the Florida shoreline. Officer Sandy Shore measures the angle of elevation to the helicopter to be  $15^\circ$  and the distance to the helicopter to be 6800 m. the nearest meter, how far is Sandy's Coast Guard boat from the point directly beneath the helicopter at the moment the package was dropped?



14. The steps to the front entrance of a public building rise a total of one meter. The steps are to be torn out and replaced by a ramp for wheelchairs. By a city ordinance, the angle of inclination for a wheelchair ramp cannot be greater than 9 degrees. What is the minimum distance from the entrance that the ramp must begin? Express your answer to the nearest tenth of a meter.