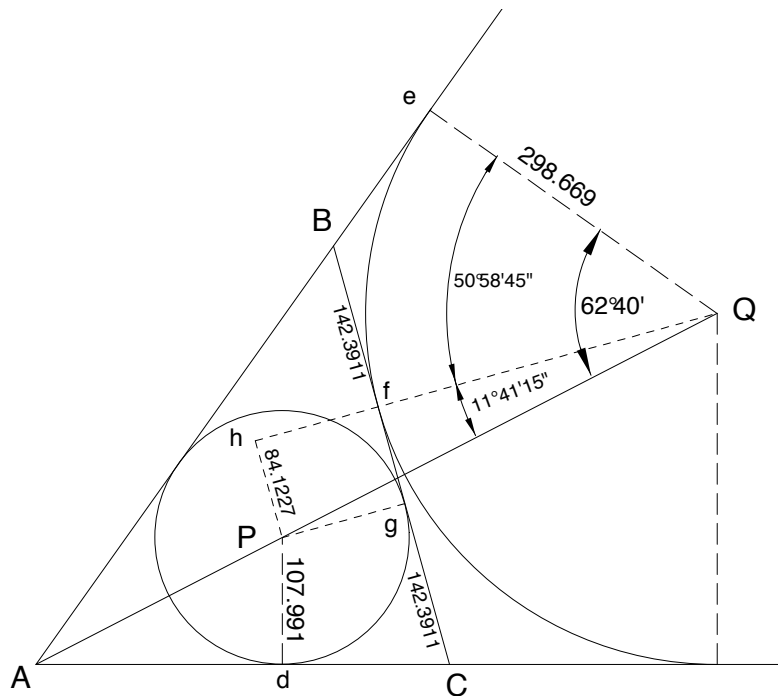


Solution 202

by Dave Lindell, L.S.



Construct lines Pd and Qe perpendicular to the lines AC and AB.

Construct lines Qf and Pg perpendicular to line BC. Extend Qf to h so that Ph is perpendicular to Qh.

$$AQ = \frac{298.669}{\cos 62^\circ 40'} = 650.4591, \quad AP = \frac{107.991}{\cos 62^\circ 40'} = 235.1892$$

$$PQ = 650.4591 - 235.1892 = 415.2699$$

$$Qh = 107.991 + 298.669 = 406.6600$$

$$\angle PQh = \cos^{-1} \frac{406.6600}{415.2699} = 11^\circ 41' 15''$$

$$Ph = 415.2699 \cdot \sin 11^\circ 41' 15'' = 84.1227$$

$$\angle fQe = 62^\circ 40' - 11^\circ 41' 15'' = 50^\circ 58' 45''$$

$$Be = Bf = 298.669 \cdot \tan \frac{50^\circ 58' 45''}{2} = 142.3911$$

$$\angle dPg = 180^\circ - 62^\circ 40' - 11^\circ 41' 15'' = 105^\circ 38' 45''$$

$$dC = Cg = 107.991 \cdot \tan \frac{105^\circ 38' 45''}{2} = 142.3911$$

$$BC = 142.3911 + 84.1227 + 142.3911 = 368.905$$