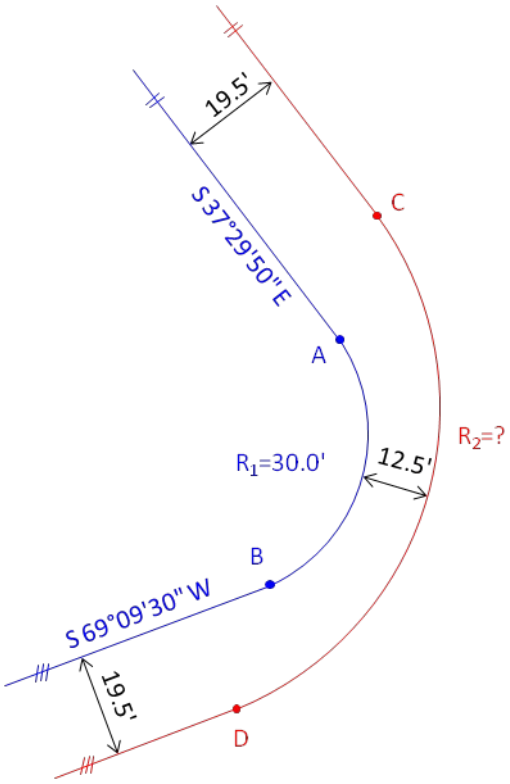
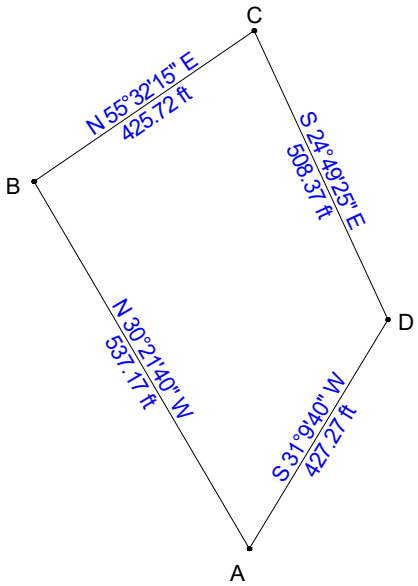
Applied Trig Problems

Problem 1. Trouble with the Curve



What is the maximum radius, R_2, of the tangent arc CD so that it comes no closer than 12.5 ft to tangent arc AB? Determine t nearest 0.01 ft.

Problem 2. A Tangential Concern

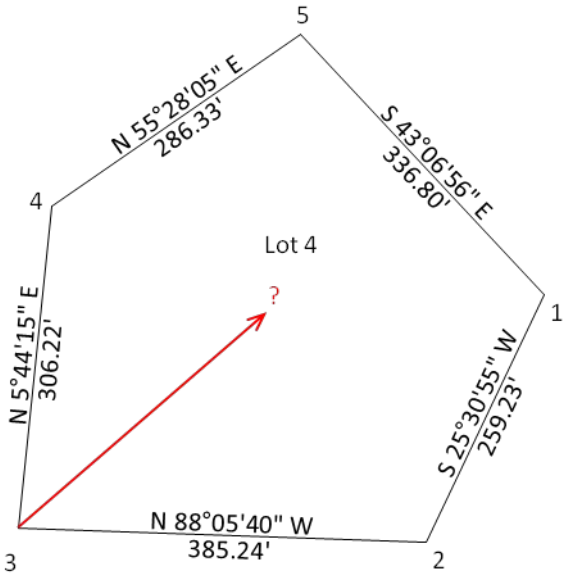


What is the radius of an arc tangent to sides AB, BC, and CD of the traverse? Determine to 0.01 ft.

Jerry Mahun, Nov 2021

Applied Trig Problems

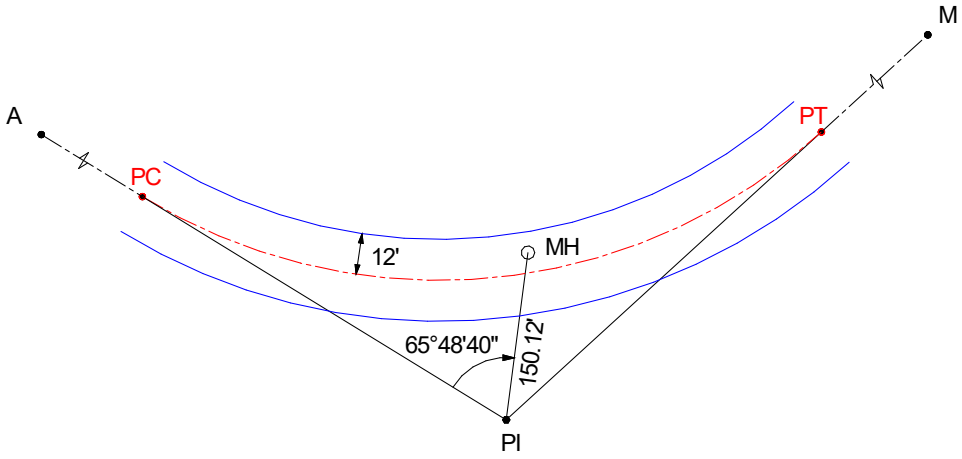
Problem 3. To Halve and Halve Lot



What is are the length (to 0.01 ft) and bearing (to 01”) of a line from point 3 that divides Lot 4 into two equal areas?

Problem 4. Turn, Turn, Turn

A street is being extended into the next phase of a subdivision. Tangent lines have been fixed and laid out. It’s required that an existing manhole fall in the center of the inner 12’ lane of the extended street. The survey crew occupied the PI and turned an angle from the back tangent to the manhole (MH) center and shot the distance.



Line	*Dist (ft)*	*Bearing*
A-PI	670.73	S 58°26’30” E
PI-M	777.87	N 47°33’30”E

What is the center line curve radius which meets this design situation? Compute to nearest 0.1 foot.

Jerry Mahun, Nov 2021