

## Answers to “Test Yourself” No. 9

### Compound Curve Replacement With Solution

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Solution:

- 1.) Delta for the replacement curve ( $\Delta_3$ ) will be  $\Delta_1 + \Delta_2$  which is  $148^\circ 18' 52''$ .
- 2.) One way to attack the problem is to put the compound curve system on a coordinate system, and compute coordinates from the PC through  $RP_1$ ,  $RP_2$ , PT to PI.
- 3.) Computing the PI coordinates will require a direction/direction intersection, PC to PI and PT to PI. (The PT to PI azimuth will be the incoming curve system azimuth plus  $90^\circ$  minus  $180^\circ$  plus  $\Delta_1$  plus  $\Delta_2$  minus  $90^\circ$ .)
- 4.) Now inverse back to the PC to get the Tangent Distance of both the compound curve system and the single circular curve replacement. (After inverting, be sure the PI to PC azimuth is  $226^\circ 37' 37''$ .) The Tangent Distance is 1827.75 feet, making the Radius of the replacement circular curve 518.68 feet.