

**Question (1)**

What are advantages, if any, for using spirals?

**Question (2)**

How is the Offset PC (OPC) defined?

**Question (3)**

\_\_\_\_\_ is inclining the pavement in order to use a component of a vehicle's weight to help offset \_\_\_\_\_ .

**Question (4)**

An entrance spiral starts with a radius of \_\_\_\_\_ .

**Question (5)**

450.00 ft long entrance and exit spirals will be used with a 3000.00 radius circular curve. The PI station is 52+00 with a  $\Delta$  angle of  $47^{\circ}00'$  Left.

**Part (1)** What is the total deflection angle of the entrance spiral at the TS?

**Part (2)** What is length of the circular curve?

**Part (3)** What is the deflection angle at the TS to the spiral midpoint?

**Question (6)**

A 300.00 ft long spiral will be used with a  $3^{\circ}00'$  circular curve. The PI station is 40+00 and the  $\Delta$  angle is  $60^{\circ}00'$  Right. Using the Approximate Method, compute the five-chord deflection angle notes for the spirals.

**Question (7)**

A 275.00 ft long spiral will be used with a 2500.00 ft radius circular curve. The PI station is 63+00 and the  $\Delta$  angle is  $38^{\circ}00'$  Left. Determine the curve system endpoint stations.