

**Sample Problem:**

With the alignment information given below, determine the basic curve data.

**Solution:**

From the information given, find L and T:

$$L = \text{PT Sta.} - \text{PC Sta.} = (20 + 77.72) - (16 + 64.78) = 412.94 \text{ ft}$$

$$T = \text{PI Sta.} - \text{PC Sta.} = (18 + 55.36) - (16 + 64.78) = 190.58 \text{ ft}$$

Using horizontal curve formulas from Figure 43-6D, solve for E, M, and R:

$$R = \frac{T}{\tan(\Delta / 2)} = \frac{190.58}{\tan 19.17^\circ} = \frac{190.58}{0.34765} = 548.20 \text{ ft}$$

$$E = T \tan (\Delta / 4) = (190.58)(\tan 9.585^\circ) = (190.58)(0.16887) = 32.18 \text{ ft}$$

$$M = R (1 - \cos \Delta / 2) = (548.20)(1 - \cos 19.17^\circ) = (548.20)(0.05545) = 30.40 \text{ ft}$$

**SIMPLE CURVE COMPUTATION**  
**(Example)**

**Figure 43-6E**