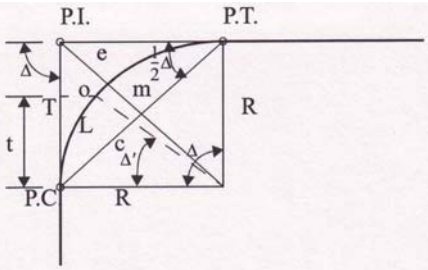
Figure 130.1



A 1° curve is a curve of a radius such that 1° of central angle subtends an arc of 100' in length.

D = Degree of Curve
R = Radius
L = Length
T = Tangent
Δ = Central or Deflection Angle
E = External
M = Mid Ordinate
C = Long Chord
O = Offset
t = Subtangent
P.I. = Point of Intersection
P.C. = Point of Curvature
P.T. = Point of Tangent

$$E = R\,\text{exsec}\,\frac{1}{2}\Delta$$

$$E = T\tan\frac{1}{4}\Delta$$

$$M = R\,\text{versine}\,\frac{1}{2}\Delta$$

$$C = 2R\sin\frac{1}{2}\Delta$$

$$O = R - \sqrt{R^2 - t^2}$$

$$t = R\sin\Delta'$$

$$R = \frac{50}{\sin\frac{1}{2}D}$$

$$L = 100\frac{\Delta}{D}$$

$$T = R\tan\frac{1}{2}\Delta$$

$$\Delta = \frac{DL}{100}$$

$$D = \frac{100\Delta}{L}$$

$$O = R - (R\cos\Delta') = R\,\text{versine}\Delta' = R(1 - \cos\Delta')$$