FORMULAS FOR ARC DEFINITION

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

$D = \dfrac{5729.58}{R}$

$T = R \tan \dfrac{\Delta}{2}$

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

$R = \dfrac{5729.58}{D}$

$E = T \tan \dfrac{\Delta}{4} = R \sec \dfrac{\Delta}{2} - R = R \, \text{Exsec} \, \dfrac{\Delta}{2}$

$M = R \, \text{Vers} \, \dfrac{\Delta}{2}$

$L.C. = 2 R \sin \dfrac{\Delta}{2}$

Locating the P.C. and P.T.

Sta. P.C. = Sta. P.I. - T

Sta. P.T. = Sta. P.C. + L

LEGEND

P.I. – Point of Intersection

P.C. – Point of Curvature

P.T. – Point of Tangency

Δ – Deflection Angle Between the Tangents

T – Tangent Distance

E – External Distance

R – Radius of the Circular Arc

M – Middle Ordinate

L.C. – Long Chord (Distance Between P.C. and P.T.)

C – Midpoint of Long Chord

D – Degree of Curvature

L – Length of Curve