Important Circular Curves on Highways and Roads Formulas PDF















26) Radius of Curve using Tangent Distance Formula 🕝		
Formula	Example with Units	Evaluate Formula 🕝
$R_{c} = \frac{T}{\sin\left(\frac{1}{2}\right) \cdot (I)}$	$148.1317 m = \frac{49.58 m}{\sin\left(\frac{1}{2}\right) \cdot (40^{\circ})}$	

27) Tangent Offset for Chord of Length Formula 🕝



Variables used in list of Circular Curves on Highways and Roads Formulas above

- a Tangent Offset (Meter)
- b Chord Offset (Meter)
- C Length of long Chord (Meter)
- **d** Central Angle for Portion of Curve (Degree)
- D Degree of Curve (Degree)
- E External Distance (Meter)
- I Central Angle of Curve (Degree)
- Length of Curve (Meter)
- M Midordinate (Meter)
- R_c Radius of Circular Curve (Meter)
- T Tangent Distance (Meter)

Constants, Functions, Measurements used in list of Circular Curves on Highways and Roads Formulas above

- constant(s): pi,
 3.14159265358979323846264338327950288
 Archimedes' constant
- Functions: cos, cos(Angle) Cosine of an angle is the ratio of the side adjacent to the angle to the hypotenuse of the triangle.
- Functions: sec, sec(Angle) Secant is a trigonometric function that is defined ratio of the hypotenuse to the shorter side adjacent to an acute angle (in a right-angled triangle); the reciprocal of a cosine.
- Functions: sin, sin(Angle) Sine is a trigonometric function that describes the ratio of the length of the opposite side of a right triangle to the length of the hypotenuse.
- Functions: sqrt, sqrt(Number) A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.
- Functions: tan, tan(Angle) The tangent of an angle is a trigonometric ratio of the length of the side opposite an angle to the length of the side adjacent to an angle in a right triangle.
- Measurement: Length in Meter (m) Length Unit Conversion
- Measurement: Angle in Degree (°) Angle Unit Conversion



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