



THE CIRCLE

Definition: A closed plane curve having every point an equal distance from a fixed point within the curve

- Circumference: The distance around a circle
 Diameter: The distance across a circle through the center
 Radius: The distance from the center to the edge of a circle
 ARC: A part of the circumference
 Chord: A straight line connecting the ends of an arc
 Segment: An area bounded by an arc and a chord
 Sector: A part of a circle enclosed by two radii and the arc that they cut off

Circumference of a Circle = $3.1416 \times 2 \times \text{radius}$

Area of a Circle = $3.1416 \times \text{radius}^2$

ARC Length = Degrees in arc \times radius \times 0.01745

Radius Length = One-half length of diameter

Sector Area = One-half length of arc \times radius

Chord Length = $2 \sqrt{A \times B}$

Segment Area = Sector area minus triangle area

Note:

$3.1416 \times 2 \times R = 360^\circ$,
or $0.0087266 \times 2 \times R = 1^\circ$, or
 $0.01745 \times R = 1^\circ$

This gives us the arc formula.

Degrees \times Radius \times 0.01745 =
Developed Length

Example:

For a 90° conduit bend, having
a radius of 17.25":

$90 \times 17.25" \times 0.01745 =$
Developed Length

27.09" = Developed Length

