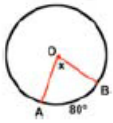
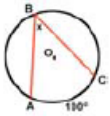
**Circle Angles:**

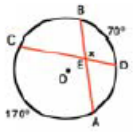
Central angle = arc



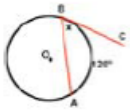

Inscribed angle = half arc



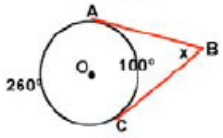

Angle formed by 2 chords
= half the sum of arcs

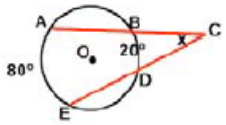


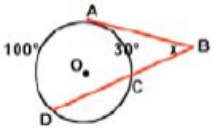

Angle by tangent/chord = half arc




Angle formed by 2 tangents, or 2 secants, or a tangent/secant
= half the difference of arcs



**Circle Segments**

In a circle, a radius perpendicular to a chord bisects the chord.

Intersecting Chords Rule:

(segment part)•(segment part) =
(segment part)•(segment part)

Secant-Secant Rule:

(whole secant)•(external part) =
(whole secant)•(external part)

Secant-Tangent Rule:

(whole secant)•(external part) = $(\text{tangent})^2$

Hat Rule: Two tangents are equal.

**Circles:**

Equation of circle center at origin:

$x^2 + y^2 = r^2$ where $r$ is the radius.

Equation of circle not at origin:

$(x-h)^2 + (y-k)^2 = r^2$ where $(h,k)$ is the center and $r$ is the radius.