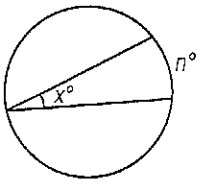
FORMULA SHEET

Formulas that you may need to work questions in this document are found below.
You may use calculator π or the number 3.14.

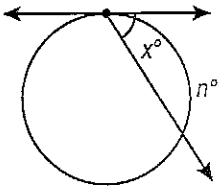
Properties of Circles

Angle measure is represented by x. Arc measure is represented by m and n. Lengths are given by a, b, c, and d.



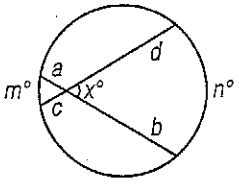
Inscribed Angle

$$x = \frac{1}{2}n$$



Tangent-Chord

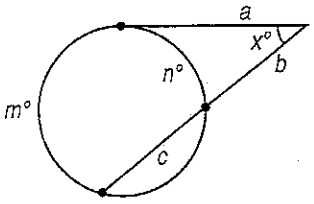
$$x = \frac{1}{2}n$$



2 Chords

$$a \cdot b = c \cdot d$$

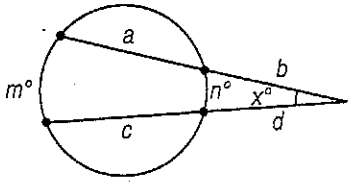
$$x = \frac{1}{2}(m+n)$$



Tangent-Secant

$$a^2 = b(b+c)$$

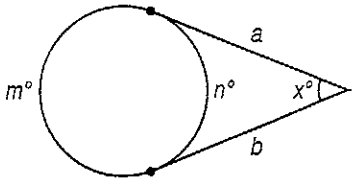
$$x = \frac{1}{2}(m-n)$$



2 Secants

$$b(a+b) = d(c+d)$$

$$x = \frac{1}{2}(m-n)$$

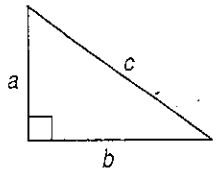


2 Tangents

$$a = b$$

$$x = \frac{1}{2}(m-n)$$

Right Triangle Formulas

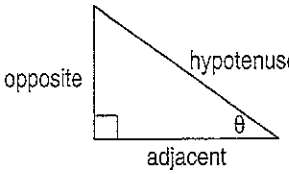


Pythagorean Theorem:

If a right triangle has legs with measures a and b and hypotenuse with measure c, then...

$$a^2 + b^2 = c^2$$

Trigonometric Ratios:



$$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos\theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan\theta = \frac{\text{opposite}}{\text{adjacent}}$$

Coordinate Geometry Properties

Distance Formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Midpoint: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

Slope: $m = \frac{y_2 - y_1}{x_2 - x_1}$

Point-Slope Formula: $(y - y_1) = m(x - x_1)$

Slope Intercept Formula: $y = mx + b$

Standard Equation of a Line: $Ax + By = C$