**RIGHT TRIANGLE TRIGONOMETRY FORMULA SHEET**

1. **Pythagorean Theorem:** Used to find a side when 2 sides are given

 $a^{2}+b^{2}=c^{2}$ \*c must be the hypotenuse

1. In a right triangle, to find a side or an angle when a side **and** an angle are given use:

Sin $θ$ = $\frac{Opposite}{Hypotenuse}$ Cos $θ$ = $\frac{Adjacent}{Hypotenuse}$ Tan $θ$ = $\frac{Opposite}{Adjacent}$

1. **Rule:** In a right triangle the Sin of one acute angle is equal to the cosine of the other acute angle.

Ex. In Δ ABC, if <C is the right angle then Sin A = Cos B

1. **CoFunctions:** **Sine** and **cosine** are cofunctions. Think complementary.



**NON RIGHT TRIANGLE FORMULAS**

\*Remember: little letters are sides; capital letters are angles

1. **Law of Sines** =

Used when given 2 sides and 1 angle trying to get angle opposite given side

OR

given 2 angles and 1 side trying to get side opposite given angle

 

1. **Area of a Non Right Triangle** = Area =$\frac{1}{2}$ ⋅*c*⋅*b*⋅*sin*(A)

 \*Think $\frac{1}{2}$ ⋅side 1⋅side 2⋅*sin of the included angle*