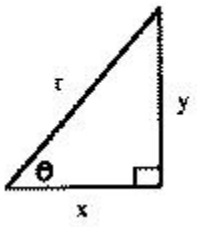
Trigonometric Functions

The **trigonometric functions** of an angle are related to the ratios of the sides of a right triangle.

The **trigonometric functions** are defined in the following manner where θ stands for either of the acute angles in the right triangle.



$sine\ \theta = \sin\theta = \frac{y}{r} = \frac{opposite\ leg}{hypotenuse}$

$cosecant\ \theta = \csc\theta = \frac{r}{y} = \frac{hypotenuse}{opposite\ leg}$

$cosine\ \theta = \cos\theta = \frac{x}{r} = \frac{adjacent\ leg}{hypotenuse}$

$\text{secant}\ \theta = \sec\theta = \frac{r}{x} = \frac{hypotenuse}{adjacent\ leg}$

$tangent\ \ \theta = \tan\theta = \frac{y}{x} = \frac{opposite\ leg}{adjacent\ leg}$

$cotangent\ \ \theta = \cot\theta = \frac{x}{y} = \frac{adjacent\ leg}{opposite\ leg}$