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Inverse trigonometric functions are also called "**Arc Functions**" since, for a given value of trigonometric functions, they produce the length of arc needed to obtain that particular value. The inverse trigonometric functions perform the opposite operation of the trigonometric functions such as sine, cosine, tangent, cosecant, secant, and cotangent. We know that trigonometric functions are especially applicable to the right angle triangle. These six important functions are used to find the angle measure in the right triangle when two sides of the triangle measures are known.

Formulas

The basic inverse trigonometric formulas are as follows:

Inverse Trig Functions	**Formulas**
Arcsine	$\sin^{-1}(-x) = -\sin^{-1}(x), x \in [-1, 1]$
Arccosine	$\cos^{-1}(-x) = \pi - \cos^{-1}(x), x \in [-1, 1]$
Arctangent	$\tan^{-1}(-x) = -\tan^{-1}(x), x \in R$
Arccotangent	$\cot^{-1}(-x) = \pi - \cot^{-1}(x), x \in R$

Arcsecant	$\sec^{-1}(-x) = \pi - \sec^{-1}(x)$, $\lvert x \rvert \geq 1$
Arccosecant	$\operatorname{cosec}^{-1}(-x) = -\operatorname{cosec}^{-1}(x)$, $\lvert x \rvert \geq 1$