

# Trigonometry & Hyperbolic Worksheet

DEG	Trigonometry		Hyperbolic		$\pi$
RAD	Sin	$\text{Sin}^{-1}$	Sinh	$\text{Sinh}^{-1}$	$\pi/2$
GRD	Cos	$\text{Cos}^{-1}$	Cosh	$\text{Cosh}^{-1}$	$\pi/3$
DMS	Tan	$\text{Tan}^{-1}$	Tanh	$\text{Tanh}^{-1}$	$\pi/4$
$\sphericalangle\%$					$\pi/5$

This worksheet provides a direct way to apply trigonometric and hyperbolic functions to the displayed number.

[ DEG ], [ RAD ], [ GRD ], [ DMS ] or [ $\sphericalangle\%$ ]	Set the current angular unit (Decimal degrees, radians, gradians, degree-minute-seconds or slope percent).
[ Sin ] [ $\text{Sin}^{-1}$ ]	Calculates the Sine of the displayed number. Calculates the Inverse Sine of the displayed number.
[ Cos ] [ $\text{Cos}^{-1}$ ]	Calculates the Cosine of the displayed number. Calculates the Inverse Cosine of the displayed number.
[ Tan ] [ $\text{Tan}^{-1}$ ]	Calculates the Tangent of the displayed number. Calculates the Inverse Tangent of the displayed number.
[ Sinh ] [ $\text{Sinh}^{-1}$ ]	Calculates the Hyperbolic Sine of the displayed number. Calculates the Inverse Hyperbolic Sine of the displayed number.
[ Cosh ] [ $\text{Cosh}^{-1}$ ]	Calculates the Hyperbolic Cosine of the displayed number. Calculates the Inverse Hyperbolic Cosine of the displayed number.
[ Tanh ] [ $\text{Tanh}^{-1}$ ]	Calculates the Hyperbolic Tangent of the displayed number. Calculates the Inverse Hyperbolic Tangent of the displayed number.
[ $\pi$ ], [ $\pi/2$ ], [ $\pi/3$ ], [ $\pi/4$ ] or [ $\pi/5$ ]	Shortcuts to enter the value of pi and selected fractions into the calculator.

The calculation of trigonometric functions are performed accordingly to the selected “Current Unit” (**DEG**, **RAD**, **GRD**, **DMS** or  $\sphericalangle\%$ ).

The following examples assumes 4 decimals display setting.

### Example: (Trigonometric Functions)

Calculation	Keystrokes	Result
Sine of 33.5 degrees	33.5 [ DEG ] [ Sin ]	0.5519
Cosine of 0.25 radians	0.25 [ RAD ] [ Cos ]	0.9689
Tangent of 78 gradians	78 [ GRD ] [ Tan ]	2.7776
Arc-Sine of 0.7982 in radians	0.7982 [ RAD ] [ Sin <sup>-1</sup> ]	0.9243
Arc-Cos. of 0.2437 in gradians	0.2437 [ GRD ] [ Cos <sup>-1</sup> ]	84.3278
Arc-Tangent of 0.4567 in degrees	0.4567 [ DEG ] [ Tan <sup>-1</sup> ]	24.5462

### Example: (Hyperbolic Functions)

Calculation	Keystrokes	Result
Hyperbolic Sine of 2.5	2.5 [ Sinh ]	6.0502
Cosine of 0.25 radians	1.75 [ Cosh ]	2.9642
Tangent of 78 gradians	0.65 [ Tanh ]	0.5717
Arc-Sine of 0.7982 in radians	2.5 [ +/- ] [ Sinh <sup>-1</sup> ]	-1.6472
Arc-Cos. of 0.2437 in gradians	2.67 [ Cosh <sup>-1</sup> ]	1.6382
Arc-Tangent of 0.4567 in degrees	0.8 [ Tanh <sup>-1</sup> ]	1.0986