

# How do I calculate the hyperbolic cosine (COSH) function in Google Sheets?

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## RECOMMENDED CITATION

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The hyperbolic cosine (COSH) function in Google Sheets is a mathematical function used to calculate the value of the hyperbolic cosine of a given number. It can be accessed by typing "=COSH()" followed by the number in which the hyperbolic cosine needs to be calculated. The function uses the formula  $\text{COSH}(x) = (e^x + e^{-x})/2$  where "e" is the mathematical constant approximately equal to 2.71828. This function is useful in various mathematical and scientific calculations.

## COSH

The COSH function returns the hyperbolic cosine of any real number.

### Sample Usage

`COSH(A2)`

`COSH(1)`

### Syntax

`COSH(value)`

`value` - Any real value to calculate the hyperbolic cosine of.

### Notes

Google Sheets does not support imaginary or complex numbers, so these are not valid inputs or outputs from hyperbolic functions.

### See Also

`TANH`: The TANH function returns the hyperbolic tangent of any real number.

`TAN`: The TAN function returns the tangent of an angle provided in radians.

`SINH`: The SINH function returns the hyperbolic sine of any real number.

`SIN`: The SIN function returns the sine of an angle provided in radians.

`RADIANS`: The RADIANS function converts an angle value in degrees to radians.

`PI`: The PI function returns the value of pi to 9 decimal places.

**DEGREES:** The DEGREES function converts an angle value in radians to degrees.

**COS:** The COS function returns the cosine of an angle provided in radians.

**ATANH:** The ATANH function returns the inverse hyperbolic tangent of a number.

**ATAN2:** The ATAN2 function returns the angle between the x-axis and a line segment from the origin (0,0) to the specified coordinate pair ( $x$ ,  $y$ ), in radians.

**ATAN:** The ATAN function returns the inverse tangent of a value in radians.

**ASINH:** The ASINH function returns the inverse hyperbolic sine of a number.

**ASIN:** The ASIN function returns the inverse sine of a value in radians.

**ACOSH:** The ACOSH function returns the inverse hyperbolic cosine of a number.

**ACOS:** The ACOS function returns the inverse cosine of a value in radians.

## Examples