

# How do I use the IMARGUMENT function in Google Sheets?

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## RECOMMENDED CITATION

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The IMARGUMENT function in Google Sheets is a mathematical function used to calculate the argument, or angle, of a complex number in polar form. To use this function, simply input the complex number in the designated cell and use the formula =IMARGUMENT(cell), where "cell" is the cell containing the complex number. This function returns the angle in radians, which can then be converted to degrees if needed. It is useful in various mathematical calculations and can be easily integrated into any spreadsheet.

## IMARGUMENT function

The IMARGUMENT function returns the angle (also known as the argument, or theta) of the given complex number in radians. This is the angle  $\theta$  such that, for any complex number in Cartesian form  $x + yi$ ,  $x + yi = rei\theta$  where  $r$  is the magnitude of the number.

### Parts of an IMARGUMENT formula

=IMARGUMENT ( number )

Part	Description	Notes
number	The complex number whose argument will be calculated.	This can be either the result of the COMPLEX function, a real number (which is interpreted as a complex number with imaginary part equal to 0), or a string in the format "x + yi" where x and y are numeric.

### Sample formulas

IMARGUMENT ( COMPLEX ( 4 , 6 ) )

IMARGUMENT ( 4 )

IMARGUMENT ( " 2+3I " )

### Notes

The IMARGUMENT function returns an error if the given number isn't a valid complex number, or is 0.

### Examples

	A	B
1	Formula	Result

2	=IMARGUMENT(COMPLEX(0, 1))	1.570796327
3	=IMARGUMENT(1)	0
4	=IMARGUMENT("1+1i")	0.7853981634

## Related function

COMPLEX: The COMPLEX function creates a complex number, given real and imaginary coefficients.

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