Draft Help Material for Calc's FLOOR.MATH and FLOOR.XCL functions (Bug 129171)

FLOOR.MATH

Rounds a number to the nearest multiple of a specified value and returns the result.

If the second (**Significance**) and third (**Mode**) arguments are omitted, the function implements a standard mathematical floor function. That is, for a real number *x*, its floor is the largest integer that is less than or equal to *x*.

This function increases interoperability with Microsoft Excel, which has had an equivalent FLOOR.MATH function since Excel 2013. When Calc opens an Excel file or saves a spreadsheet to Excel format, it does not need to convert references to FLOOR.MATH to some other function.

Syntax

`FLOOR.MATH(Number, Significance, Mode)`

Number is the value, or a reference to a cell containing the value, that is to be rounded. If **Number** is set to 0, FLOOR.MATH returns 0, irrespective of the value of **Significance**.

Significance (optional) is the value, or a reference to a cell containing the value, to whose multiple **Number** will be rounded. If omitted, the default is 1. If **Significance** is set to 0, FLOOR.MATH returns 0, irrespective of the value of **Number**. The sign of **Significance** is ignored by this function.

Mode (optional) is a value that controls how negative numbers are rounded, toward or away from zero. Mode has no impact if **Number** is positive. If **Mode** is omitted or set to 0, then the function rounds negative numbers down, away from zero. If **Mode** is omitted, or specified as a non-zero value, then the function rounds negative numbers up toward zero.

Examples

`=FLOOR.MATH(5.678), =FLOOR.MATH(5.678,1) and =FLOOR.MATH(5.678,1,0)` all return the value 5.

`=FLOOR.MATH(-7.89), =FLOOR.MATH(-7.89,1) and =FLOOR.MATH(-7.89,1,0)` all return the value 8.

`=FLOOR.MATH(5.678,1,-2)` returns the value 5 (the negative value of **Mode** has no impact because **Number** is positive).

`=FLOOR.MATH(-7.89,1,-2)` and `=FLOOR.MATH(-7.89,1,2)` both return the value -7 (the non-zero value of **Mode** changes the direction of rounding for the negative **Number**).

FLOOR.XCL

Rounds a number to the nearest multiple of a specified value and returns the result.

The default behavior when the second argument (**Significance**) is positive is for the function to round down. However, if both arguments are negative, the function rounds up toward zero.

This function is provided for interoperability with Microsoft Excel. Calc's FLOOR.XCL function is compatible with Excel's FLOOR function. When you open an Excel file in Calc, Calc converts references to Excel's FLOOR function to instead reference Calc's FLOOR.XCL function. Similarly, when you save a Calc spreadsheet in Excel format, Calc converts references to its own FLOOR.XCL function to instead reference Excel's FLOOR function.

Syntax

`FLOOR.XCL(Number, Significance)`

Number is the value, or a reference to a cell containing the value, that is to be rounded. If **Number** is set to 0, FLOOR.XCL returns 0, irrespective of the value of **Significance**.

Significance is the value, or a reference to a cell containing the value, to whose multiple **Number** will be rounded. If **Number** is non-zero and **Significance** is set to 0, the function returns an error value. If **Number** is positive and **Significance** is negative, the function returns an error value. If **Number** is already an exact multiple of **Significance**, no rounding occurs. If both **Number** and **Significance** are negative, then the function rounds up toward zero; otherwise it rounds down away from zero.

Examples

`=FLOOR.XCL(5.6, 2)` returns the value 4.

`=FLOOR.XCL(-12.7, 5.3)` returns the value -15.9.

`=FLOOR.XCL(-6.5, -2.1)` returns the value -6.3.