

List of mathematical operators and functions which can be used in the Smart Altitude WebGIS calculation tool.

Note: remember to always put a space character between operators and operands. While some operators work without extra space characters, others might not.

Mathematical Operators

Operator	Description	Example	Value
+	addition	2 + 3	5
-	subtraction	2 - 3	-1
*	multiplication	2 * 3	6
/	division (integer division - truncates the result) - 0 as argument not allowed	5 / 2	2
%	modulo (remainder of division) - 0 as argument not allowed	5 % 2	1
^	exponentiation (associates left to right)	2 ^ 3	8
/	square root - negative argument not allowed	/ 25	5
/	cube root - negative argument not allowed	/ 27	3
@	absolute value	@ -2.42	2.42

Mathematical Functions

Function	Description	Example	Result
abs(x)	absolute value, same as operator @	abs(-2.42)	2.42
cbt(x)	cube root	cbt(27.0)	3
ceil(x)	nearest integer greater than or equal to argument	ceil(-42.8)	-42
degrees(x)	radians to degrees	degrees(0.5)	28.64...
div(y, x)	integer quotient of y/x	div(9, 4)	2
exp(x)	exponential	exp(1.0)	2.718...
floor(x)	nearest integer less than or equal to argument	floor(-42.8)	-43
ln(x)	natural logarithm - 0 as argument not allowed	ln(2.0)	0.693...
log(x)	base 10 logarithm - 0 as argument not allowed	log(100.0)	2
log(b, x)	logarithm to base b	log(2.0, 64.0)	6
mod(x, y)	remainder of y/x	mod(9, 4)	1
pi()	pi constant	pi()	3.141...
power(x, y)	x raised to the power of y	power(9, 2)	729
radians(x)	degrees to radians	radians(45.0)	0.785...
round(x)	round to nearest integer	round(42.4)	42
round(x, y)	round to y decimal places	round(32.36, 1)	32.4
sign(x)	sign of the argument (-1, 0, +1)	sign(-4.1)	-1
sqrt(x)	square root, same as operator / - negative argument not allowed	sqrt(2.0)	1.414...
trunc(x)	truncate toward zero	trunc(42.8)	42
trunc(x, y)	truncate to y decimal places	trunc(42.43, 1)	42.4

Raster Zonal Statistics

Note: These functions operate on raster layers only. They calculate zonal statistics for Alpine Space LAU units.

Function	Description
min()	minimum pixel value per LAU unit
max()	maximum pixel value per LAU unit
count()	number of pixels per LAU unit
sum()	sum of pixel values per LAU unit
avg()	average for pixel values per LAU unit
med()	median for pixel values per LAU unit

Random Functions

Function	Description
random()	random value in the range $0.0 \leq x < 1.0$

From:

<http://www.wikialps.eu/> - WIKIALps - the Alpine WIKI

Permanent link:

http://www.wikialps.eu/doku.php?id=wiki:smartaltitude_webgis_calc_operators_functions

Last update: 2020/06/21 20:26

