53. PHP Math Functions

53.1. PHP Math Introduction

The math functions can handle values within the range of integer and float types.

53.2. Installation

The math functions are part of the PHP core. There is no installation needed to use these functions.

53.3. PHP Math Functions

PHP: indicates the earliest version of PHP that supports the function.

Function	Description	PHP
abs()	Returns the absolute value of a number	3
acos()	Returns the arccosine of a number	3
acosh()	Returns the inverse hyperbolic cosine of a number	4
asin()	Returns the arcsine of a number	3
asinh()	Returns the inverse hyperbolic sine of a number	4
atan()	Returns the arctangent of a number as a numeric value between -PI/2 and PI/2 radians	3
atan2()	Returns the angle theta of an (x,y) point as a numeric value between -PI and PI radians	3
atanh()	Returns the inverse hyperbolic tangent of a number	4
base_convert()	Converts a number from one base to another	3
bindec()	Converts a binary number to a decimal number	3
ceil()	Returns the value of a number rounded upwards to the nearest integer	3
cos()	Returns the cosine of a number	3
cosh()	Returns the hyperbolic cosine of a number	4
decbin()	Converts a decimal number to a binary number	3
dechex()	Converts a decimal number to a hexadecimal number	3
decoct()	Converts a decimal number to an octal number	3
deg2rad()	Converts a degree to a radian number	3
exp()	Returns the value of E^x	3
expm1()	Returns the value of E^x - 1	4
floor()	Returns the value of a number rounded downwards to the nearest integer	3
fmod()	Returns the remainder (modulo) of the division of the arguments	4

getrandmax()	Returns the maximum random number that can be returned by a call to the rand() function	3
hexdec()	Converts a hexadecimal number to a decimal number	3
hypot()	Returns the length of the hypotenuse of a right-angle triangle	4
is_finite()	Returns true if a value is a finite number	4
is_infinite()	Returns true if a value is an infinite number	4
is_nan()	Returns true if a value is not a number	4
lcg_value()	Returns a pseudo random number in the range of (0,1)	4
log()	Returns the natural logarithm (base E) of a number	3
log10()	Returns the base-10 logarithm of a number	3
log1p()	Returns log(1+number)	4
max()	Returns the number with the highest value of two specified numbers	3
min()	Returns the number with the lowest value of two specified numbers	3
mt_getrandmax()	Returns the largest possible value that can be returned by mt_rand()	3
mt_rand()	Returns a random integer using Mersenne Twister algorithm	3
mt_srand()	Seeds the Mersenne Twister random number generator	3
octdec()	Converts an octal number to a decimal number	3
pi()	Returns the value of PI	3
pow()	Returns the value of x to the power of y	3
rad2deg()	Converts a radian number to a degree	3
rand()	Returns a random integer	3
round()	Rounds a number to the nearest integer	3
sin()	Returns the sine of a number	3
sinh()	Returns the hyperbolic sine of a number	4
sqrt()	Returns the square root of a number	3
srand()	Seeds the random number generator	3
tan()	Returns the tangent of an angle	3
tanh()	Returns the hyperbolic tangent of an angle	4

53.4. PHP Math Constants

PHP: indicates the earliest version of PHP that supports the constant.

Constant	Description	PHP
M_E	Returns e (approx. 2.718)	4
M_EULER	Returns Euler's constant (approx. 0.577)	4
M_LNPI	Returns the natural logarithm of PI (approx. 1.144)	4

M_LN2	Returns the natural logarithm of 2 (approx. 0.693)	4
M_LN10	Returns the natural logarithm of 10 (approx. 2.302)	4
M_LOG2E	Returns the base-2 logarithm of E (approx. 1.442)	4
M_LOG10E	Returns the base-10 logarithm of E (approx. 0.434)	4
M_PI	Returns PI (approx. 3.14159)	3
M_PI_2	Returns PI/2 (approx. 1.570)	4
M_PI_4	Returns PI/4 (approx. 0.785)	4
M_1_PI	Returns 1/PI (approx. 0.318)	4
M_2_PI	Returns 2/PI (approx. 0.636)	4
M_SQRTPI	Returns the square root of PI (approx. 1.772)	4
M_2_SQRTPI	Returns 2/square root of PI (approx. 1.128)	4
M_SQRT1_2	Returns the square root of 1/2 (approx. 0.707)	4
M_SQRT2	Returns the square root of 2 (approx. 1.414)	4
M_SQRT3	Returns the square root of 3 (approx. 1.732)	4