Operators – Functions – Number Symbols

Arithmetic operators and special characters

Character	Input in MAR	Result in MAR	In words
+	4+3	= 7	Plus (addition)
-	4-3	= 1	Minus (subtraction)
*	4*3	= 12	Multiplication
/	5/4	= 1.25	Division
\	4\3	= 1	Integer division
^	4^3	= 64	Raise to the power
!	4!	= 24	Factorial
( )	3*(3+4) sin(90)	= 21 = 1	Brackets – change of the order of precedence or used with functions
’	X=2+3 ’Comment X=1+2 ’easy peasy	X= 5 ’Comment X= 3 ’easy peasy	To initiate a comment, use the single apostrophe

Standard functions in MAR

Function	In MAR	In words
sin x	sin(x)	Sine of x
cos x	cos(x)	Cosine of x
tan x	tan(x)	Tangent of x
cot x	cot(x)	Cotangent of x
arcsin x	arcsin(x)	Arcsine of x
arccos x	arccos(x)	Arccosine of x
arctan x	arctan(x)	Arctangent of x
arccot x	arccot(x)	Arccotangent of x
sinh x	sinh(x)	Hyperbolic sine of x
cosh x	cosh(x)	Hyperbolic cosine of x
tanh x	tanh(x)	Hyperbolic tangent of x
coth x	coth(x)	Hyperbolic cotangent of x
ar sinh x	arsinh(x)	Inverse hyperbolic sine of x
ar cosh x	arcosh(x)	Inverse hyperbolic cosine of x Defined for ($x \geq 1$)
ar tanh x	artanh(x)	Inverse hyperbolic tangent of x Defined for ($\|x\| < 1$)
ar coth x	arcoth(x)	Inverse hyperbolic cotangent of x Defined for ($\|x\| > 1$)
$\log_e x$	ln(x)	Logarithm of x to the base e (natural logarithm)
$\log_{10} x$	lg(x)	Logarithm of x to the base 10
$\log_2 x$	lb(x)	Logarithm of x to the base 2
$\|x\|$	abs(x)	Absolute value
e^x	exp(x)	Natural exponential function (e=2.71828…)
$\sqrt{x}$	sqr(x)	Square root of x

Predefined names in MAR

Constant	In MAR	Meaning
π	PI	π = 3.14159...

Number symbols (variables or constants)

Number symbols, variables and constants, can consist of characters and numbers. The length of names is not restricted. Symbols must start with an alphabetic character A-Z. No special characters are accepted. Example: enter „My Symbol = 2“ or „S1 = 2“ or - with a comment - „S1 = 2 ’ my first symbol“. After that you can calculate with S1.