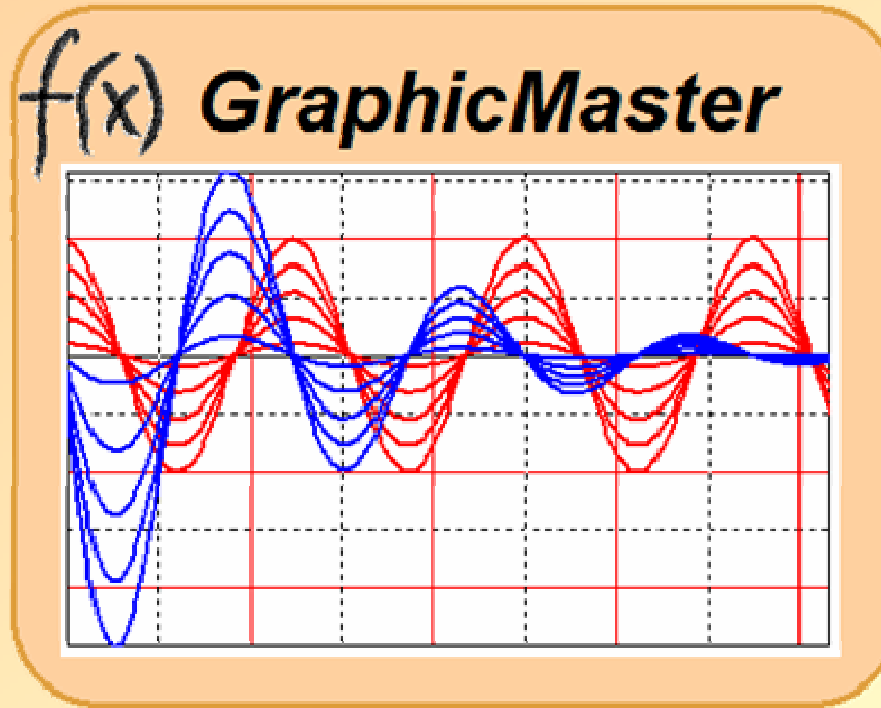


GraphicMaster



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*A Powerful Mathematical
Function Plotter*

GraphicMaster Features

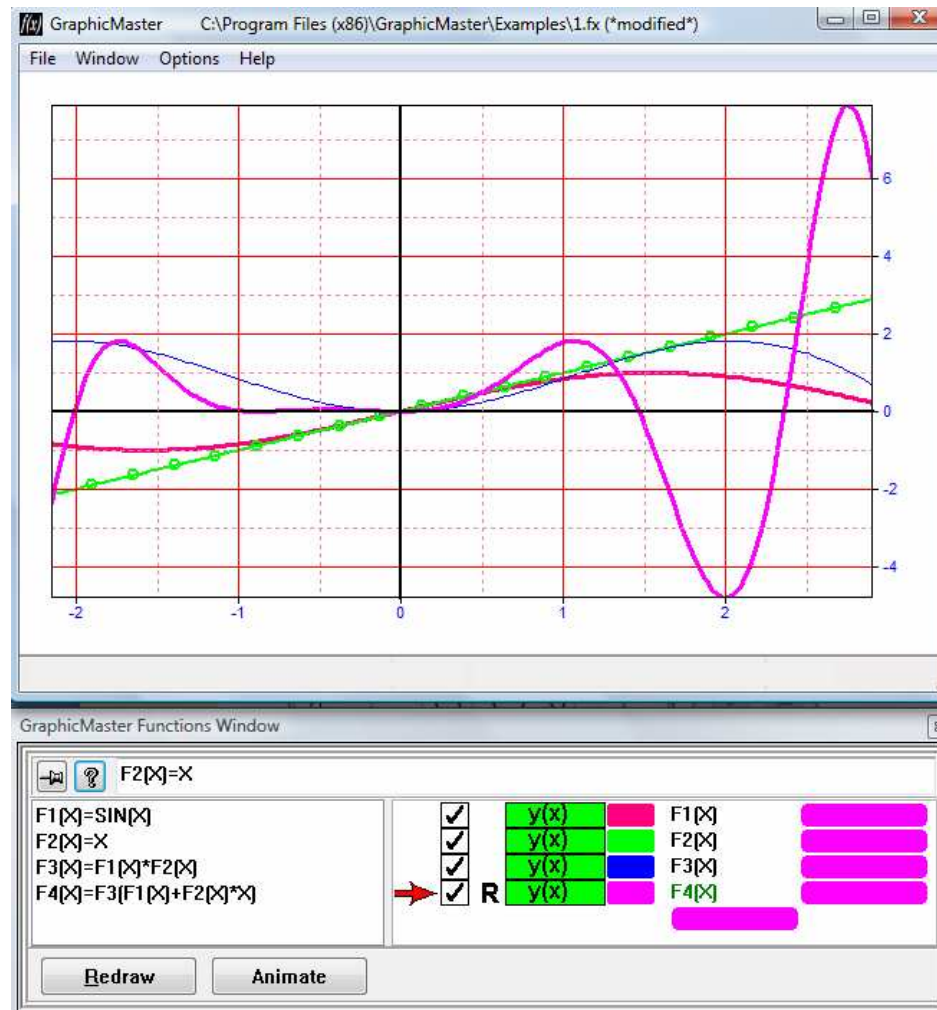
$f(x)$

- Interactive mathematical function plotter with more than 90 intrinsic functions and operators and user-defined functions
- Multiple functions in one window
- Animation
- Parameters are supported, e. g. $f_1(x)=\sin(x)*A$, where A is 1, 2, 5, 10
- Nested functions like $f(g(h(x)))$
- Super-positioning like $f_1(x)=g(x)*\sin(x-3)+D_1(x)$
- HPGL-Plotter support (physical plotter and plot to file)
- Coordinate system: Cartesian or Polar
- Grids: linear, logarithmic and decibel scaling in both axes
- Zoom, Pan, mouse wheel support
- Customizable layout
- Save and restore functions
- Preview window
- Axes scaling: linear, logarithmic, decibel
- Function types: Cartesian, parametric, polar, polar parametric
- Windows 98, ME, 2000, XP, Vista, 2003, 2008; x32 and x64

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GraphicMaster: User defined functions, Nesting and Superpositioning. $f(x)$



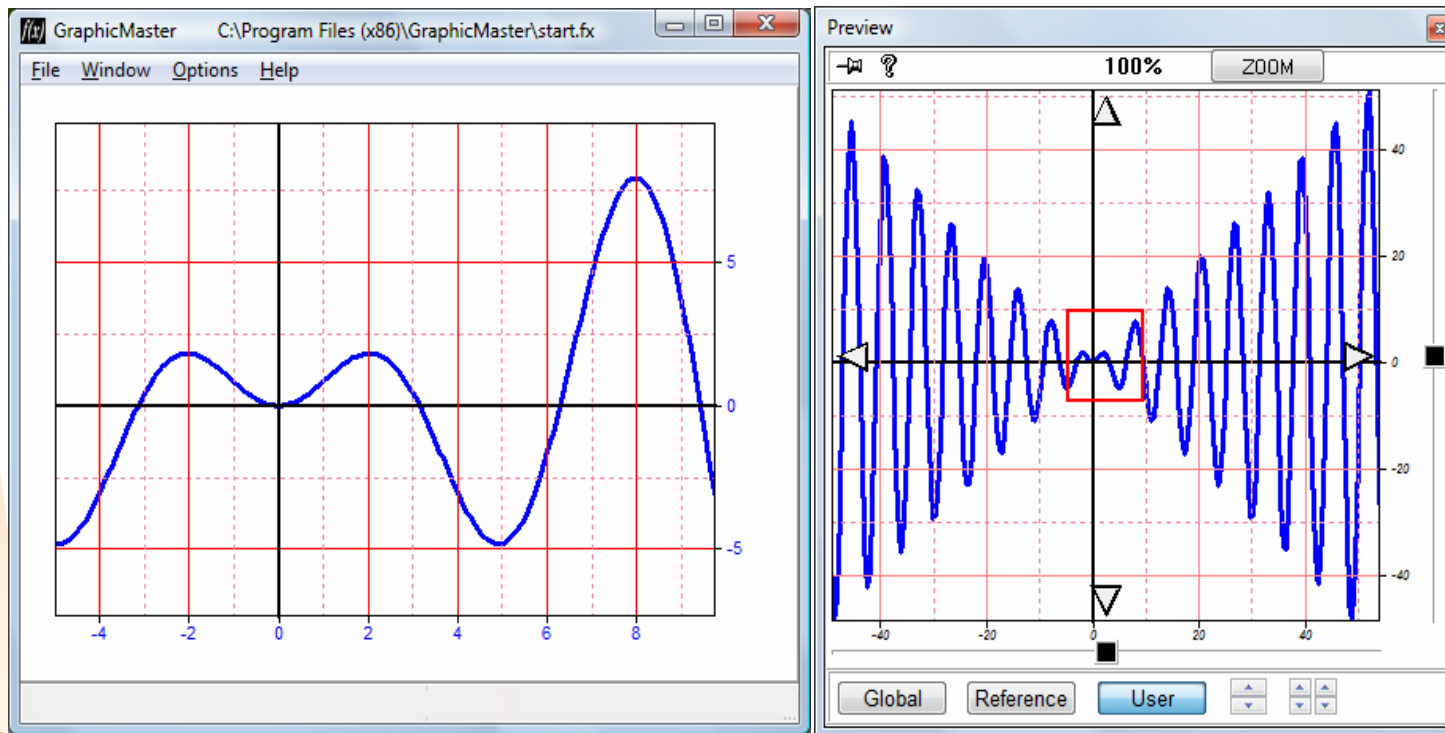
- GraphicMaster supports:
- User-defined functions
 - Nesting
 - Superpositioning of functions

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GraphicMaster: View and Preview

$f(x)$



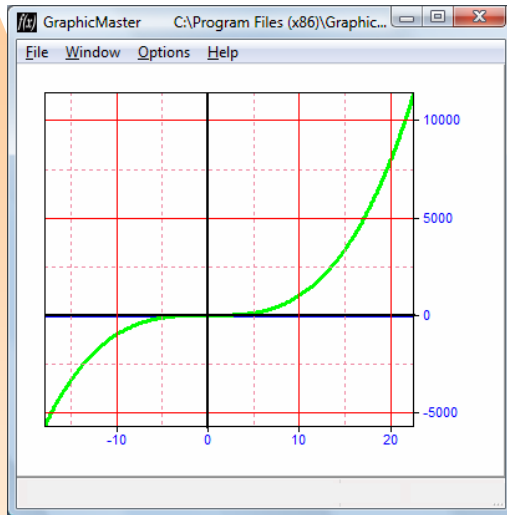
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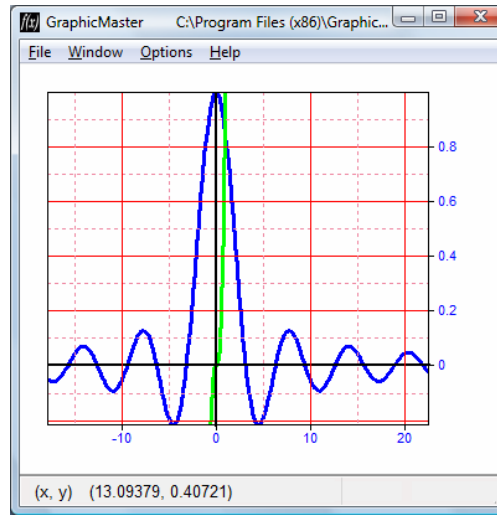
GraphicMaster shows View and Preview of the function graph.

GraphicMaster: Different views

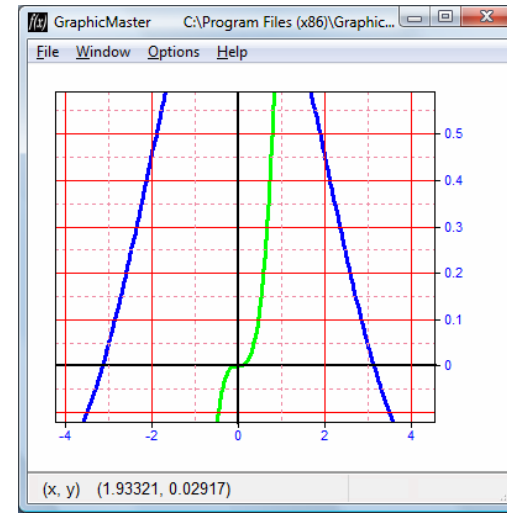
$f(x)$



Global View: scale to biggest function.



Reference View: scale to reference function.



User-defined View: scale to user input.

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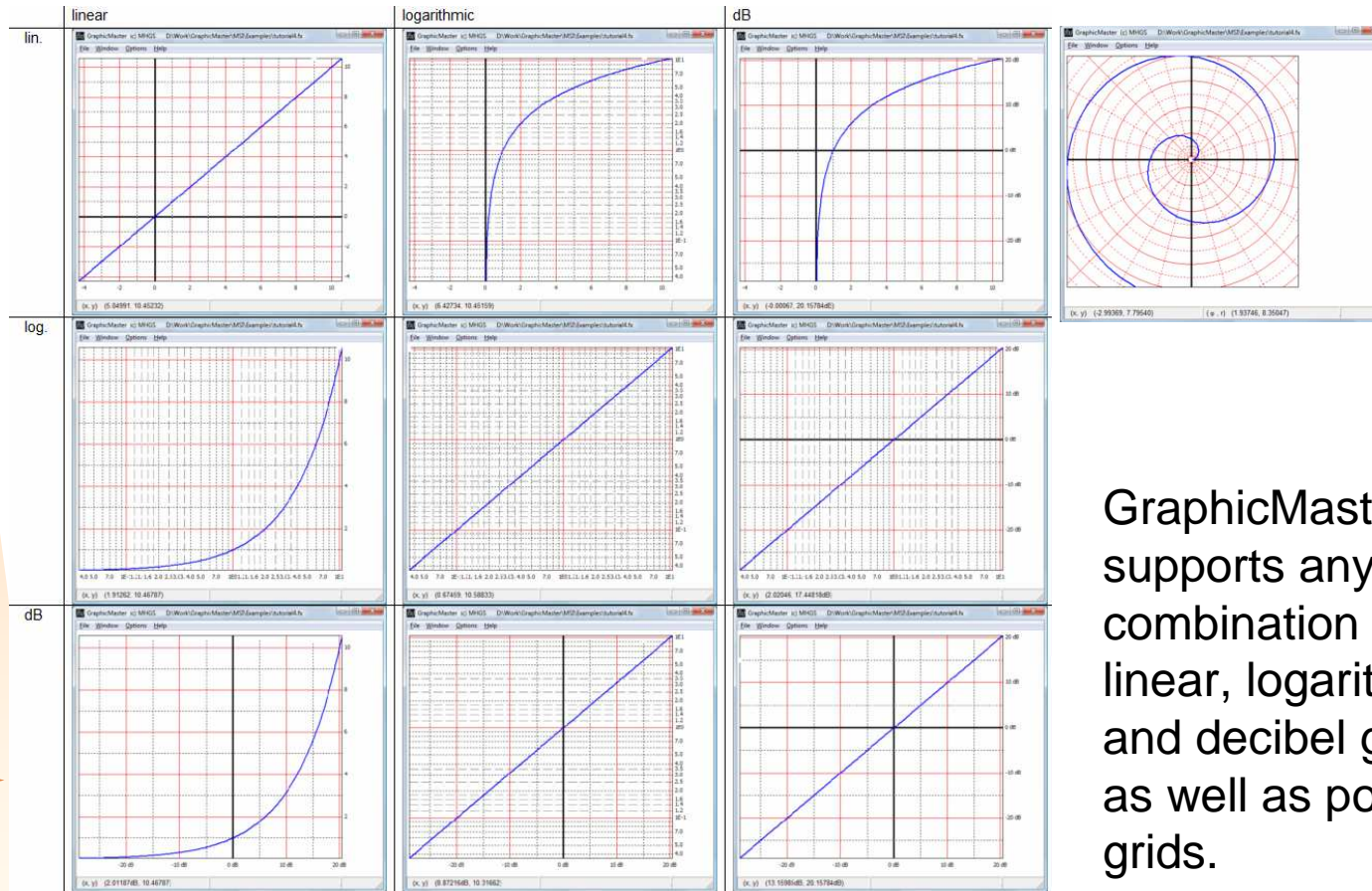
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GraphicMaster handles:

- Global View
- Reference View
- User-defined View

GraphicMaster: Grid types

$f(x)$



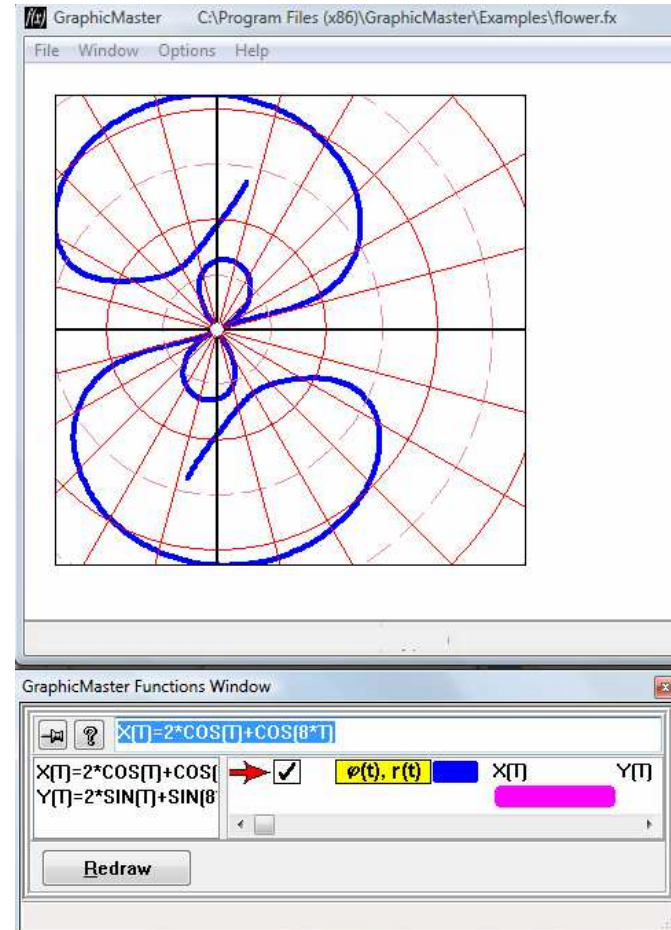
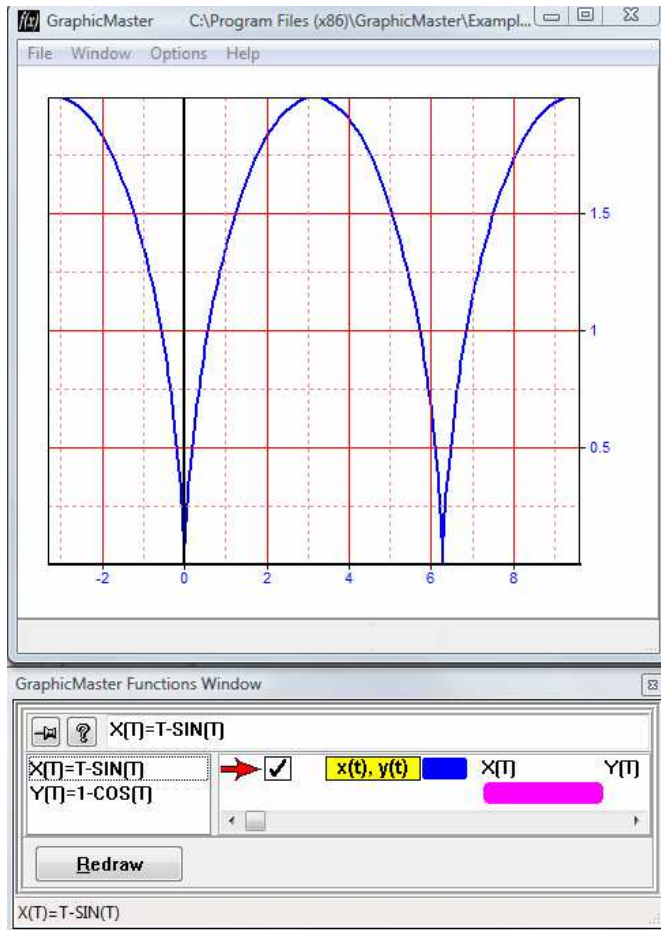
GraphicMaster supports any combination of linear, logarithmic, and decibel grids, as well as polar grids.

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GraphicMaster: Parametric functions

$f(x)$



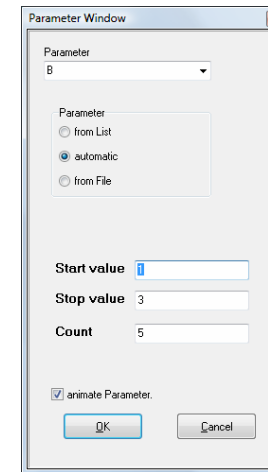
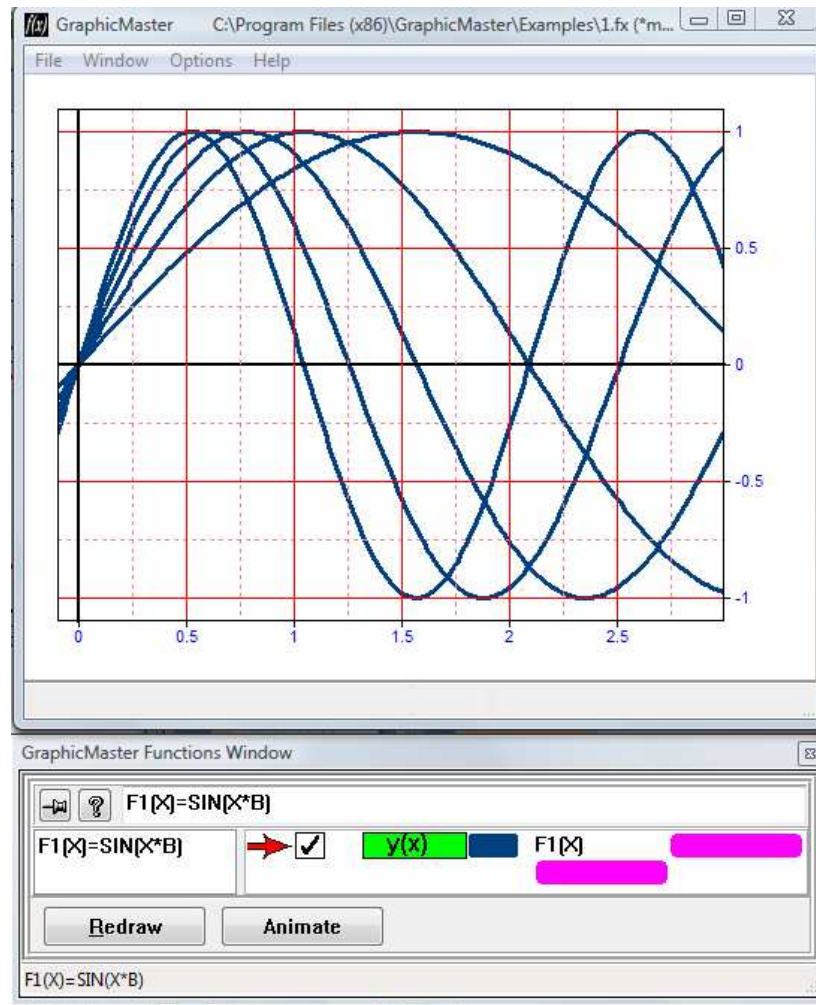
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GraphicMaster displays Cartesian and polar parametric functions.

GraphicMaster: Parameterfunctions

$f(x)$



GraphicMaster supports parameters, which can be modified in many ways. Functions with parameters can be animated.

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GraphicMaster: Intrinsic functions, Operators, Constants

$f(x)$

Powers:	x^y sqr(x) exp(x) sqrt(x) cbrt(x) root(n,x)	x to the power of y square of x exponential of x squareroot of x cubic root of x n-th root of x
Logarithms:	ln(x) lg(x) lb(x) log(b,x)	log with base e of x log with base 10 of x log with base 2 of x common log with base b of x
Trigonometric Functions:	sin(x) cos(x) tan(x) cot(x) sec(x) cosec(x)	sine of x cosine of x tangent of x cotangent of x secans of x cosecans of x
Arc Functions:	arcsin(x) arccos(x) arctan(x) atan2(y,x) arccot(x)	arc sine of x arc cosine of x arc tangent of x arc tangent of y/x arc cotangent of x
Hyperbolic Functions:	sinh(x) cosh(x) tanh(x) coth(x)	hyperbolic sine of x hyperbolic cosine of x hyperbolic tangent of x hyperbolic cotangent of x
Area Functions:	arsinh(x) arcosh(x) artanh(x) arcoth(x)	inverse hyperbolic sine of x inverse hyperbolic cosine of x inverse hyperbolic tangent of x inverse hyperbolic cotangent of x
Statistical Function:	gauss(x) erf(x) invert(x) n over k bino(n,k) poisson(mu,n) poicum(mu,n)	normal distribution of x error function of x inverse of error function of x binomial coefficient n over k Poisson distribution of n with average mu cumulated Poisson distribution up to n with average mu
Random Numbers:	rnd(x) rand(a,b) poirand(mu)	random number in [0,x] random number in [a,b] Poisson distributed random numbers with average mu
Bessel Functions:	J0(x) J1(x) J2(x) J3(x) J4(x) J5(x) J(n,x)	0th order of x 1st order of x 2nd order of x 3rd order of x 4th order of x 5th order of x n-th order of x
Integral Functions:	Si(x) Ci(x) Ei(x) li(x)	sine integral of x cosine integral of x exponential integral of x logarithm integral of x
Gammafunction:	gamma(x)	gamma function of x
Stepfunctions:	theta(x) sgn(x) int(x) round(x) ceil(x) floor(x) abs(x) frac(x) max(x,y) min(x,y) odd(n) gcd(n,m) lcm(n,m) IF-Function: if(c;x,y)	=1 if x > 0, else =0 (AKA Heaviside function) signum function of x integer part of x x rounded to next integer value x rounded to higher integer value x rounded to lower integer value absolute x non-integer part of x maximum value of x and y minimum value of x and y =1 if n is odd, =0 if n is even greatest common divisor of n and m least common multiple of n and m if condition c=1 (TRUE) then x, else y

Adding:	$x + y$	adds x and y
Subtracting:	$x - y$	subtracts y from x
Multiplying:	$x * y$	multiplies x and y
	fact(n)	factorial of n, n!
Dividing:	x / y	divides x through y
	n div m n /m	integer division
	rez(x)	reciprocal value of x
	n mod m n % m	integer modulo
	modulo(x,y)	rest of division x/y
Bitwise and Logical Operators:	a and b a & b a or b a b (a) xor (b) bnot(a) not(a) ta a shl b a >> b a shr b a >> b	bitwise logic AND bitwise logic OR bitwise logic XOR bitwise NOT logical NOT shifts a b bitpositions to the left shifts a b bitpositions to the right
Relational Operators:	= y x <= y x != y x < y x <= y x > y x >= y	=1 if x is equal to y, else =0 =1 if x is not equal to y, else =0 =1 if x is less or equal to y, else =0 =1 if x is less than y, else =0 =1 if x is greater or equal to y, else =0 =1 if x is greater than y, else =0

Intrinsic mathematical Constants

PI	3.1415...
E	e = 2.7182...
C	0.577215... Euler's constant
TRUE	logical value 1.0
FALSE	logical value 0.0
INFINITY	symbolical value for ∞
NEGINFINTY	symbolical value for $-\infty$
NaN	Not a Number (aborts evaluation)

GraphicMaster's mathematical parser [TFunctionParser](#) supports many intrinsic functions, operators and constants.

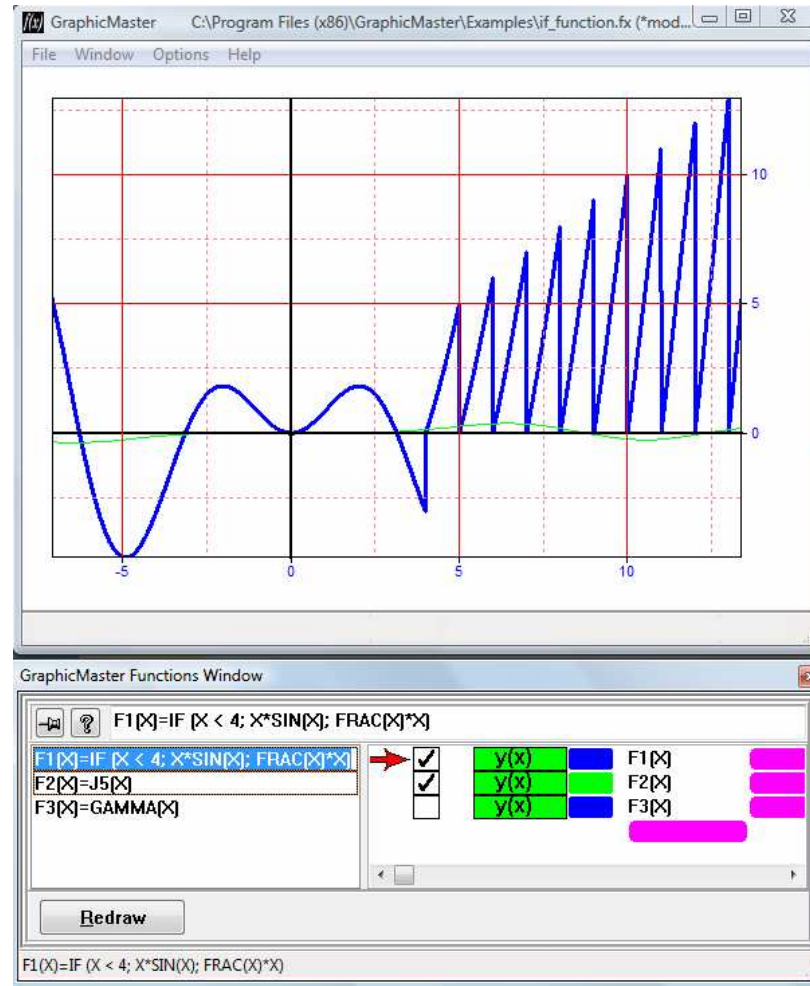
<http://www.MHGSoft.de/parser/funclist.shtm>

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GraphicMaster: Special Functions

$f(x)$



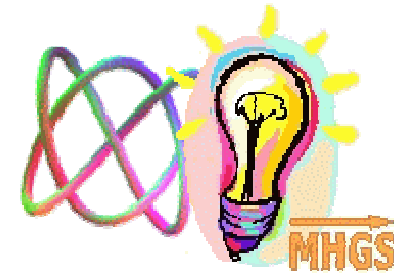
GraphicMaster can calculate special functions, e. g. terms with conditions.

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Contact

$f(x)$



- Internet:

<http://www.MHGSoft.de>

<http://www.MHGSoft.de/graphicmaster/>

- eMail: mhgs@MHGSoft.de



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