Syntax for Entering Functions in Interactivate Activities

. Numerical values entered should be accurately calculated from 10^{-8} to 10^8. Numbers larger or smaller than these values produce unreliable results. You may use scientific notation for entering functions in the form: mantissa followed by an e followed by 10 raised to the desired power. For example 0.000032 would be input as 3.2e10^-5.

Functions and their compositions can be typed as follows:
Type the formula of the function you want to graph in the text box labeled **f(x)=**.

Function	Symbol	Examples (including combinations of functions)
addition	+	**x + 3** x plus three
subtraction	-	**5 - x** five minus x
multiplication	*	**(x - 2)*x** x times x minus two
division	/	**3/x** three divided by x
power	^	**x^3 - 1** x to the power of three minus one
power	**	**x**3 - 1** x to the power of three minus one
π (pi)	pi	**sin(pi*x)** sin of π (pi) times x
square root	sqrt(...)	**sqrt(x-1)** square root of x minus one
nth root (see * below)	x^(1/n)	**x^(1/3)** cube root of x
absolute value	abs(...)	**abs(3 - x)** absolute value of three minus x
positive part of the operand	ppo(...)	**ppo(x+2)** returns x+2 if x>0 and 0 if x<0
step	step(...)	**step(x)** returns 1 if x>0 and 0 if x<0
e to the power of x	exp(...)	**exp(x)** e to the power of x
sine	sin(...)	**sin(x**2)** sine of x squared
cosine	cos(...)	**cos(5 - x)** cosine of five minus x
tangent	tan(...)	**tan(x)** tangent x
arcsine	asin(...)	**2*asin(x)** two times arcsine x

arccosine	acos(...)	**acos(x)** arccosine x
arctangent	atan(...)	**atan(x)** arctangent of x
hyperbolic sine	sinh(...)	**sinh(1 - x)** hyperbolic sine of one minus x
hyperbolic cosine	cosh(...)	**cosh(10/x)** hyperbolic cosine of ten divided by x
hyperbolic tangent	tanh(...)	**tanh(x)** hyperbolic tangent of x
natural logarithm	ln(...)	**ln(x)** natural logarithm of x
base 10 logarithm	log(...)	**log(x + 5)** base ten logarithm of x plus five

[*] When x is less than zero, the exponent must be written as a whole number or in fraction form, not a decimal. For instance, if you want to graph the fifth root of negative numbers, you must write x^(1/5), **not** x^(0.2).