<u>Trignometry</u>

(%i1) sin (%pi) ;

(%o1) 0

(%i2) asin (0) ;

(%o2) 0

(%i3) cos (%pi) ;

(%o3) −1

(%i4) acos (− 1) ;

(%o4) π

(%i5) tan (%pi / 4) ;

(%o5) 1

(%i6) atan (1) ;

(%o6) $\dfrac{\pi}{4}$

(%i7) wxplot2d ([sin (x) , cos (x) , tan (x)] , [x , − %pi / 2 + 0 . 1 , %pi / 2 − 0 . 1]) ;

(%t7)
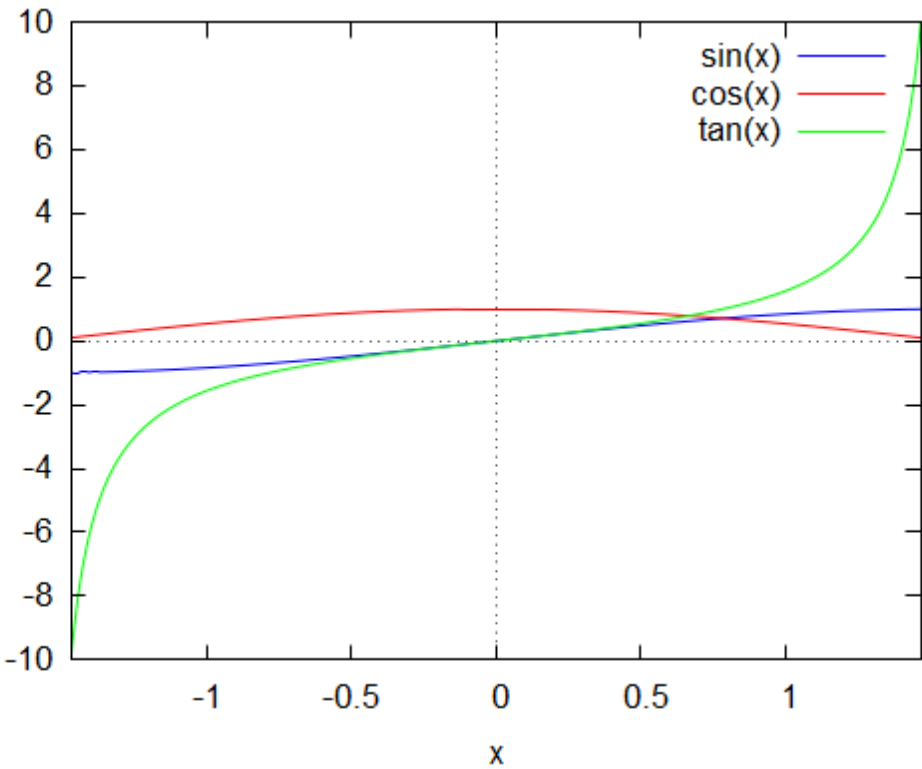
(%o7)

(%i8) sinh (0) ;

(%o8)   0

(%i13) cosh (0) ;

(%o13) 1

(%i10) tanh (0) ;

(%o10) 0
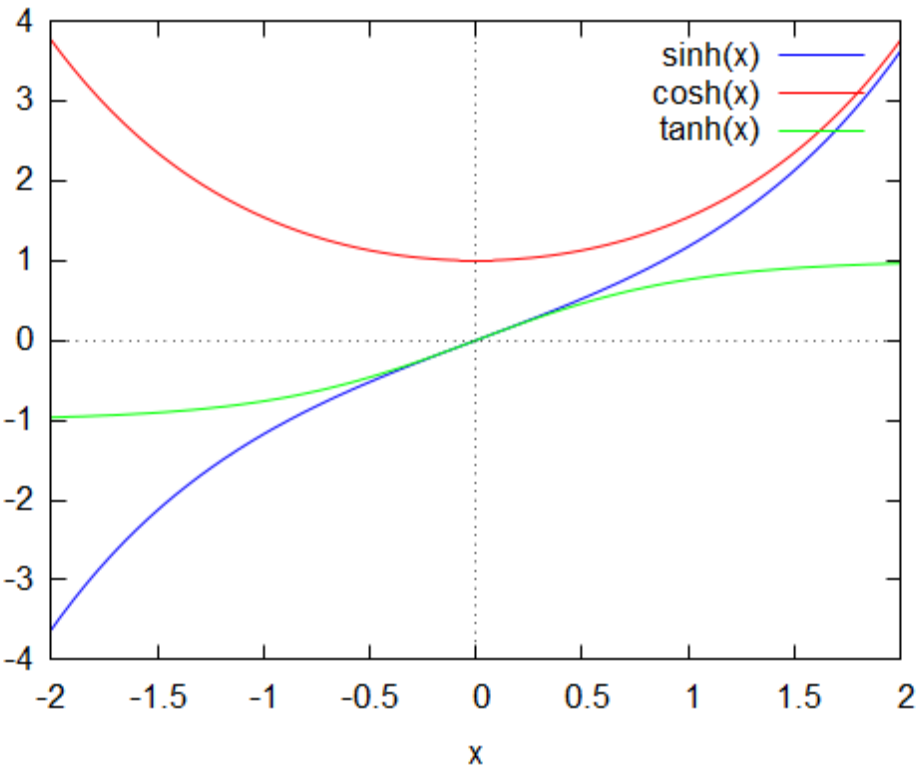
(%i14) asinh (0) ;

(%o14) 0

(%i16) acosh (1) ;

(%o16) 0

(%i17) atanh (0) ;

(%o17) 0

(%i18) wxplot2d ([sinh (x) , cosh (x) , tanh (x)] , [x , − 2 , 2]) ;

(%t18)

(%o18)

(%i19) diff (sin (x) , x) ;

(%o19) $\cos(x)$

(%i24) diff (cos (x) , x) ;

(%o24) $-\sin(x)$

(%i27) diff (tan (x) , x) ;

(%o27) $\sec(x)^2$

(%i29) diff (sinh (x) , x) ;

(%o29) $\cosh(x)$

(%i30) diff (cosh (x) , x) ;

(%o30) $\sinh(x)$

(%i31) diff (tanh (x) , x) ;

(%o31) $\mathrm{sech}(x)^2$

(%i32) integrate (sin (x) , x) ;

(%o32) $-\cos(x)$

(%i33) integrate (cos (x) , x) ;

(%o33) $\sin(x)$

(%i34) integrate (tan (x) , x) ;

(%o34) $\log(\sec(x))$

(%i35) integrate (sinh (x) , x) ;

(%o35) $\cosh(x)$

(%i36) integrate (cosh (x) , x) ;

(%o36) $\sinh(x)$

(%i37) integrate (tanh (x) , x) ;

(%o37) $\log(\cosh(x))$

(%i38) trigexpand (sin (10 · x + y)) ;

(%o38) $\cos(10x)\sin(y) + \sin(10x)\cos(y)$

(%i39) trigexpand (sinh (x + y)) ;

(%o39) $\cosh(x)\sinh(y) + \sinh(x)\cosh(y)$

(%i40) trigreduce (cos (10 · x) · sin (y) + sin (10 · x) · cos (y)) ;

(%o40) $\sin(y + 10x)$

(%i41) sin (x) ^ 2 + cos (x) ^ 2 ;

(%o41) $\sin(x)^2 + \cos(x)^2$

(%i42) trigsimp (sin (x) ^ 2 + cos (x) ^ 2) ;

(%o42) 1

(%i43) sin (3 · a) / sin (a + %pi / 3) ;

(%o43) $\dfrac{\sin\left(3a\right)}{\sin\left(a + \frac{\pi}{3}\right)}$

(%i44) trigrat (sin (3 · a) / sin (a + %pi / 3)) ;

(%o44) $\sqrt{3}\sin\left(2a\right) + \cos\left(2a\right) - 1$

(%i45) exponentialize (sinh (x)) ;

(%o45) $\dfrac{\%e^{x} - \%e^{-x}}{2}$

(%i46) exponentialize (cosh (x)) ;

(%o46) $\dfrac{\%e^{x} + \%e^{-x}}{2}$

(%i48) exponentialize (tanh (x)) ;

(%o48) $\dfrac{\%e^{x} - \%e^{-x}}{\%e^{x} + \%e^{-x}}$

Created with wxMaxima.