

Main Formula In Hyperbolic Trigonometry

$sh\ x = \frac{(e^x - e^{-x})}{2}$
$cosh\ x = \frac{(e^x + e^{-x})}{2}$
$tanh\ x = \frac{(e^x - e^{-x})}{(e^x + e^{-x})}$
$cos\ ech\ x = \frac{1}{(sh\ x)}$
$sech\ x = \frac{1}{(cosh\ x)}$
$coth\ x = \frac{1}{(tanh\ x)}$
$cosh^2\ x - sh^2\ x = 1$
$1 - tanh^2\ x = sech^2\ x$
$1 - coth^2\ x = -cos\ ech^2\ x$
$sh(-x) = -sh\ x$
$cosh(-x) = cosh\ x$
$tanh(-x) = -tanh\ x$
$sh(x \pm y) = sh\ x\ cosh\ y \pm cosh\ x\ sh\ y$
$cosh(x \pm y) = cosh\ x\ cosh\ y \pm sh\ x\ sh\ y$
$tanh(x \pm y) = \frac{(tanh\ x \pm tanh\ y)}{(1 \pm tanh\ x\ tanh\ y)}$
$sh\ 2x = 2\ sh\ x\ cosh\ x$