Lignes trigonométriques	Lignes hyperboliques
fonctions	
cos x = $\frac{e^{ix}+e^{-ix}}{2}$	ch x = $\frac{e^{x}+e^{-x}}{2}$ ch x pair et chx ≥ 1
sin x =$\frac{e^{ix}-e^{-ix}}{2}$	sh x =$\frac{e^{x}-e^{-x}}{2}$ sh x impair
Tan x = $i\frac{-e^{ix}+e^{-ix}}{e^{ix}+e^{-ix}} = i\frac{e^{-2ix}-1}{e^{-2ix}+1} = i\frac{1-e^{2ix}}{1+e^{2ix}}$	Th x = $\frac{e^{x}-e^{-x}}{e^{x}+e^{-x}} = \frac{e^{2x}-1}{e^{2x}+1} = \frac{1-e^{-2x}}{1+e^{-2x}}$ -1 <th x <+1
Arc cos x [-1 , 1] → [0 , π] symétrie / (0, π/2)	Arg ch x =ln(x+$\sqrt{x^2-1}$) (≥ 0 pour x ≥ 1)
Arc sin x [-1 , 1] → [$-\frac{\pi}{2}, \frac{\pi}{2}$] symétrie / (0, 0)	Arg sh x =ln(x+$\sqrt{1+x^2}$) impaire
Arc tan x R →]$-\frac{\pi}{2}, \frac{\pi}{2}$[symétrie / (0, 0)	Arg th x =$\frac{1}{2} ln\frac{1+x}{1-x}$ impaire pour -1 < x < +1
Informatique : **Arc cos** x = **arc tan** (-x/$\sqrt{1-x^2}$)+2arc tan (1) **Arc sin** x = **arc tan** (x / $\sqrt{1-x^2}$)	
Dérivées	
Cos ' x = – sin x	Ch ' x = sh x
Sin ' x = cos x	Sh ' x = ch x
Tan ' x = 1/cos^2 x = 1+ tan^2 x	Th ' x = 1/ ch^2 x = 1 – th^2 x
Arc cos ' x = – 1 / $\sqrt{1-x^2}$	Arg ch ' x = 1 / $\sqrt{x^2-1}$
Arc sin ' x = 1 / $\sqrt{1-x^2}$	Arg sh ' x = 1 / $\sqrt{x^2+1}$
Arc tg x = 1 / (1+x^2)	Arg th ' x = 1 / (1-x^2)
Relation fondamentale	
Cos^2 x + sin ^{2} x = 1	Ch^2 x – sh^2 x = 1
Addition	
Cos (a+b) = cos a cos b – sin a sin b	Ch (a+b) = cha ch b + sh a sh b
Sin (a+b) = cos a sin b + cos b sin a	Sh (a+b) = cha sh b + sh a ch b
Tan (a+b) = (tan a + tan b) / (1–tan a tan b)	Th (a+b) = (th a + th b) / (1 + th a th b)
Cos 2x = cos^2 x – sin^2 x	Ch 2x = ch^2 x + sh^2 x
Sin 2x = 2 cos x sin x	Sh 2 x = 2 ch x sh x

En fonction de t = tan(x/2) ou t =th(x/2)	
Tan x = $\frac{2t}{1-t^2}$	Th x = $\frac{2t}{1+t^2}$
Sin x = $\frac{2t}{1+t^2}$	Sh x = $\frac{2t}{1-t^2}$
Cos x = $\frac{1-t^2}{1+t^2}$	Ch x =$\frac{1+t^2}{1-t^2}$
Produit → somme	
Cos² x = $\frac{cos\,2x+1}{2}$	Ch² x = $\frac{ch2x+1}{2}$
Sin² x = $\frac{1-cos\,2x}{2}$	Sh² x = $\frac{ch2x-1}{2}$
sin a cos b = $\frac{1}{2}$ [sin (a+b) + sin (a–b)]	sh a ch b = $\frac{1}{2}$ [sh (a+b) + sh (a–b)]
sin a sin b = $\frac{1}{2}$ [cos (a–b) – cos (a+b)]	sh a sh b = $\frac{1}{2}$ [ch (a+b) – ch (a-b)]
cos a cos b = $\frac{1}{2}$ [cos (a+b) + cos (a–b)]	ch a ch b = $\frac{1}{2}$ [ch (a+b) + ch (a–b)]