

*** Formules d'addition**

$\cos(a+b) = \cos a \cos b - \sin a \sin b$	$\operatorname{ch}(a+b) = \operatorname{ch} a \operatorname{ch} b + \operatorname{sh} a \operatorname{sh} b$
$\cos(a-b) = \cos a \cos b + \sin a \sin b$	$\operatorname{ch}(a-b) = \operatorname{ch} a \operatorname{ch} b - \operatorname{sh} a \operatorname{sh} b$
$\sin(a+b) = \sin a \cos b + \sin b \cos a$	$\operatorname{sh}(a+b) = \operatorname{sh} a \operatorname{ch} b + \operatorname{sh} b \operatorname{ch} a$
$\sin(a-b) = \sin a \cos b - \sin b \cos a$	$\operatorname{sh}(a-b) = \operatorname{sh} a \operatorname{ch} b - \operatorname{sh} b \operatorname{ch} a$
$\tan(a+b) = \frac{\tan a + \tan b}{1 - \tan a \tan b}$	$\operatorname{th}(a+b) = \frac{\operatorname{th} a + \operatorname{th} b}{1 + \operatorname{th} a \operatorname{th} b}$
$\tan(a-b) = \frac{\tan a - \tan b}{1 + \tan a \tan b}$	$\operatorname{th}(a-b) = \frac{\operatorname{th} a - \operatorname{th} b}{1 - \operatorname{th} a \operatorname{th} b}$

*** Transformation de sommes en produits**

$\cos a + \cos b = 2 \cos \frac{a+b}{2} \cos \frac{a-b}{2}$	$\operatorname{ch} p + \operatorname{ch} q = 2 \operatorname{ch} \frac{p+q}{2} \operatorname{ch} \frac{p-q}{2}$
$\cos a - \cos b = -2 \sin \frac{a+b}{2} \sin \frac{a-b}{2}$	$\operatorname{ch} p - \operatorname{ch} q = 2 \operatorname{sh} \frac{p+q}{2} \operatorname{sh} \frac{p-q}{2}$
$\sin a + \sin b = 2 \sin \frac{a+b}{2} \cos \frac{a-b}{2}$	$\operatorname{sh} p + \operatorname{sh} q = 2 \operatorname{sh} \frac{p+q}{2} \operatorname{ch} \frac{p-q}{2}$
$\sin a - \sin b = 2 \sin \frac{a-b}{2} \cos \frac{a+b}{2}$	$\operatorname{sh} p - \operatorname{sh} q = 2 \operatorname{sh} \frac{p-q}{2} \operatorname{ch} \frac{p+q}{2}$
$\tan a + \tan b = \frac{\sin(a+b)}{\cos a \cos b}$	$\operatorname{th} p + \operatorname{th} q = \frac{\operatorname{sh}(p+q)}{\operatorname{ch} p \cdot \operatorname{ch} q}$
$\tan a - \tan b = \frac{\sin(a-b)}{\cos a \cos b}$	$\operatorname{th} p - \operatorname{th} q = \frac{\operatorname{sh}(p-q)}{\operatorname{ch} p \cdot \operatorname{ch} q}$

*** Formules de duplication**

$\cos 2a = \cos^2 a - \sin^2 a = 2 \cos^2 a - 1$ $= 1 - 2 \sin^2 a$ $= \frac{1 - \operatorname{tg}^2 a}{1 + \operatorname{tg}^2 a}$	$\operatorname{ch} 2a = \operatorname{ch}^2 a - \operatorname{sh}^2 a = 2 \operatorname{ch}^2 a - 1$ $= 2 \operatorname{sh}^2 a + 1$ $= \frac{1 + \operatorname{th}^2 a}{1 - \operatorname{th}^2 a}$
$\sin 2a = 2 \sin a \cos a = \frac{2 \operatorname{tg} a}{1 + \operatorname{tg}^2 a}$	$\operatorname{sh} 2a = 2 \operatorname{sh} a \operatorname{ch} a = \frac{2 \operatorname{th} a}{1 - \operatorname{th}^2 a}$
$\operatorname{tg} 2a = \frac{2 \operatorname{tg} a}{1 - \operatorname{tg}^2 a}$	$\operatorname{th} 2a = \frac{2 \operatorname{th} a}{1 + \operatorname{th}^2 a}$

*** Transformation de produits en sommes**

$\cos a \cos b = \frac{1}{2} [\cos(a+b) + \cos(a-b)]$	$\operatorname{ch} a \operatorname{ch} b = \frac{1}{2} [\operatorname{ch}(a+b) + \operatorname{ch}(a-b)]$
$\sin a \sin b = \frac{1}{2} [\cos(a-b) - \cos(a+b)]$	$\operatorname{sh} a \operatorname{sh} b = \frac{1}{2} [\operatorname{ch}(a+b) - \operatorname{ch}(a-b)]$
$\sin a \cos b = \frac{1}{2} [\sin(a+b) + \sin(a-b)]$	$\operatorname{sh} a \operatorname{ch} b = \frac{1}{2} [\operatorname{sh}(a+b) + \operatorname{sh}(a-b)]$