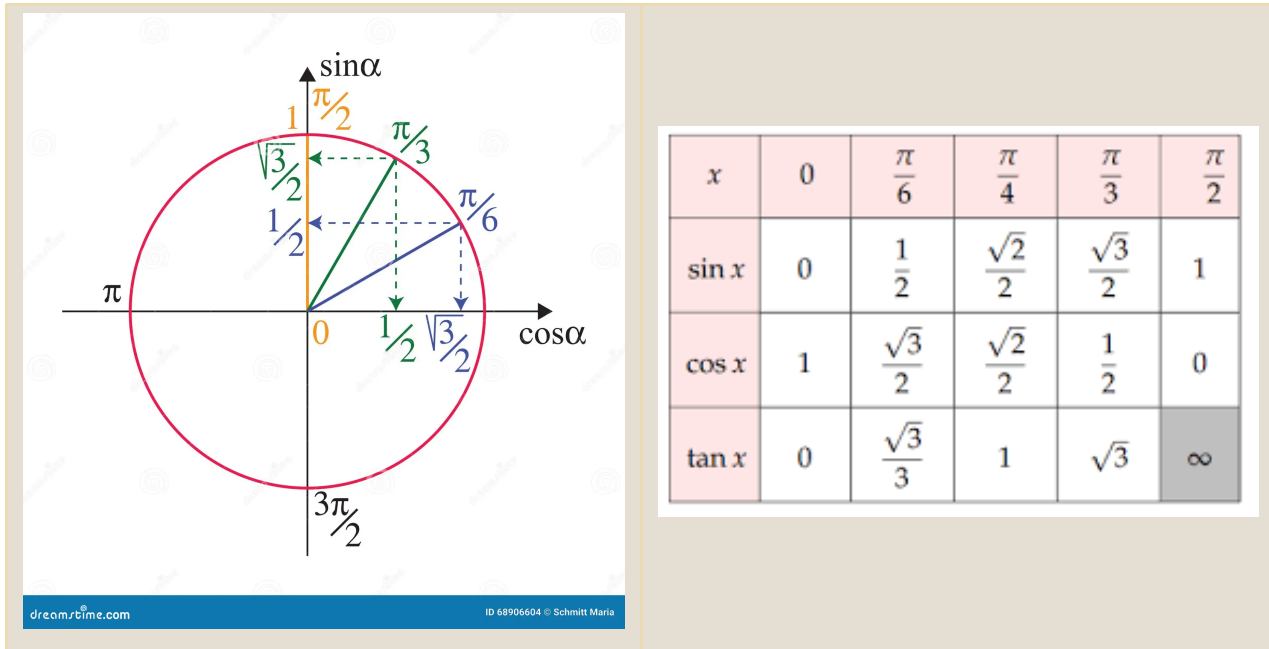


Formules trigo

#trigonometrie



- $\sin^2(\theta) + \cos^2(\theta) = 1$

Symétrie

$\cos\left(x + \frac{\pi}{2}\right) = -\sin(x)$	$\cos(x + \pi) = -\cos(x)$
$\cos\left(\frac{\pi}{2} - x\right) = \sin(x)$	$\cos(\pi - x) = -\cos(x)$
$\sin\left(x + \frac{\pi}{2}\right) = \cos(x)$	$\sin(x + \pi) = -\sin(x)$
$\sin\left(\frac{\pi}{2} - x\right) = \cos(x)$	$\sin(\pi - x) = \sin(x)$
$\cos(-x) = \cos(x)$	$\sin(-x) = -\sin(x)$

Sommes

- $\cos(a + b) = \cos(a)\cos(b) - \sin(a)\sin(b)$
- $\cos(a - b) = \cos(a)\cos(b) + \sin(a)\sin(b)$
- $\sin(a + b) = \sin(a)\cos(b) + \cos(a)\sin(b)$
- $\sin(a - b) = \sin(a)\cos(b) - \cos(a)\sin(b)$

- $\tan(a + b) = \frac{\tan(a) + \tan(b)}{1 - \tan(a) \tan(b)}$
- $\tan(a - b) = \frac{\tan(a) - \tan(b)}{1 + \tan(a) \tan(b)}$

Angles doubles et demi-angle

- $\cos(2x) = 2 \cos^2(x) - 1 = 1 - 2 \sin^2(x) = \cos^2(x) - \sin^2(x)$
- $\sin(2x) = 2 \cos(x) \sin(x)$
- $\tan(2x) = \frac{2 \tan(x)}{1 - \tan^2(x)}$

Produits \rightarrow sommes

- $\cos(a) \cos(b) = \frac{1}{2} (\cos(a + b) + \cos(a - b))$
- $\sin(a) \sin(b) = \frac{1}{2} (\cos(a - b) - \cos(a + b))$
- $\sin(a) \cos(b) = \frac{1}{2} (\sin(a + b) + \sin(a - b))$

Autres

- $\tan'(x) = 1 + \tan^2(x) = \frac{1}{\cos^2(x)}$
- $\tan'(u(x)) = u'(x)(1 + \tan^2(u(x))) = \frac{u'(x)}{\cos^2(u(x))}$
- $\lambda_1 \cos(\omega t) + \lambda_2 \sin(\omega t) = A \cos(\omega t + \varphi)$