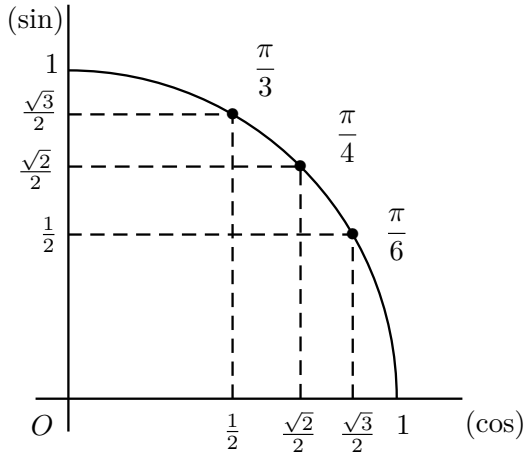
# FORMULAIRE DE TRIGONOMÉTRIE

## Angles remarquables

| $x$ | $0°/0rad$ | $30°$ / $\frac{\pi}{6}rad$ | $45°$ / $\frac{\pi}{4}rad$ | $60°$ / $\frac{\pi}{3}rad$ | $90°$ / $\frac{\pi}{2}rad$ |
|---|---|---|---|---|---|
| $\sin x$ | 0 | $\mathbf{\frac{1}{2}}$ | $\mathbf{\frac{\sqrt{2}}{2}}$ | $\mathbf{\frac{\sqrt{3}}{2}}$ | 1 |
| $\cos x$ | 1 | $\mathbf{\frac{\sqrt{3}}{2}}$ | $\mathbf{\frac{\sqrt{2}}{2}}$ | $\mathbf{\frac{1}{2}}$ | 0 |




## Formules d'addition

- $\cos(a+b) = \cos(a)\cos(b) - \sin(a)\sin(b)$
- $\cos(a-b) = \cos(a)\cos(b) + \sin(a)\sin(b)$
- $\sin(a+b) = \sin(a)\cos(b) + \sin(b)\cos(a)$
- $\sin(a-b) = \sin(a)\cos(b) - \sin(b)\cos(a)$
- $\tan(a+b) = \dfrac{\tan(a)+\tan(b)}{1-\tan(a)\tan(b)}$
- $\tan(a-b) = \dfrac{\tan(a)-\tan(b)}{1+\tan(a)\tan(b)}$

## Angles associés

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

## Formules de duplication et linéarisation :

- $\cos(2a) = \cos^2(a) - \sin^2(a)$
- $\cos(2a) = 2\cos^2(a) - 1$
- $\cos(2a) = 1 - 2\sin^2(a)$
- $\sin(2a) = 2\sin(a)\cos(a)$
- $\cos^2(a) = \dfrac{1+\cos(2a)}{2}$
- $\sin^2(a) = \dfrac{1-\cos(2a)}{2}$
- $\tan^2(a) = \dfrac{1-\cos(2a)}{1+\cos(2a)}$

## Encore des formules...

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