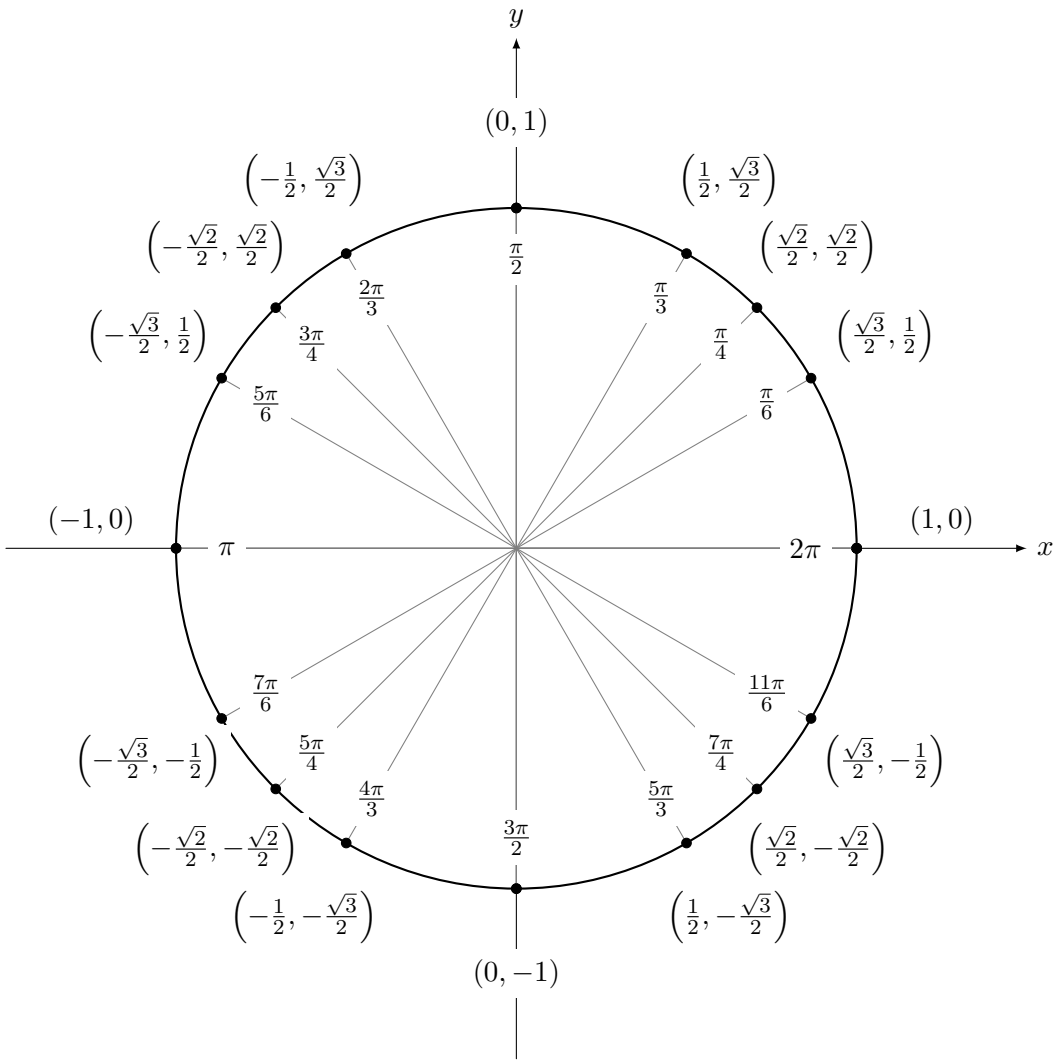
Quelques identités trigonométriques

1. **Relations entre fonctions.**
$$\tan\theta = \frac{\sin\theta}{\cos\theta}; \qquad \cos^2\theta + \sin^2\theta = 1; \qquad 1 + \tan^2\theta = \frac{1}{\cos^2\theta}$$
2. **Relations liées au cercle trigonométrique** $(\cos\theta, \sin\theta)$**.**



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

3. **Formules d'addition.**
$\cos(a+b) = \cos a\cos b - \sin a\sin b$; $\sin(a+b) = \sin a\cos b + \cos a\sin b$
$\cos(a-b) = \cos a\cos b + \sin a\sin b$; $\sin(a-b) = \sin a\cos b - \cos a\sin b$
$\tan(a+b) = \dfrac{\tan a + \tan b}{1 - \tan a\tan b}$; $\tan(a-b) = \dfrac{\tan a - \tan b}{1 + \tan a\tan b}$

4. **Formules de duplication.**
$\sin 2a = 2\sin a\cos a$
$\cos 2a = \cos^2 a - \sin^2 a = 2\cos^2 a - 1 = 1 - 2\sin^2 a$

5. **Formules de linéarisation**
$$\cos^2 a = \frac{1 + \cos(2a)}{2}; \qquad \sin^2 a = \frac{1 - \cos(2a)}{2}$$

6. **Formules d'Euler.**
$$\cos\theta = \frac{e^{i\theta} + e^{-i\theta}}{2}; \qquad \sin\theta = \frac{e^{i\theta} - e^{-i\theta}}{2i}$$