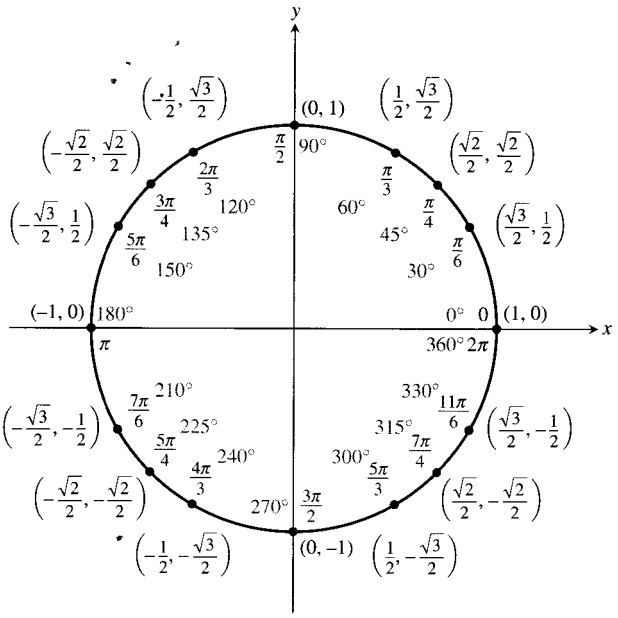
Círculo trigonométrico

Alguns ângulos são evidentes:



Identidades trigonométricas

Identidades de Ângulo Simétrico

- $\sin(-x) = -\sin(x)$
- $\cos(-x) = \cos(x)$
- $\tan(-x) = -\tan(x)$
- $\csc(-x) = -\csc(x)$
- $\sec(-x) = \sec(x)$
- $\cot(-x) = -\cot(x)$

Soma e Diferença de Ângulos

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

Identidades de Ângulo Duplo

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

Identidades de Ângulo Metade

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

Identidades de Produto a Soma

- $\sin(a)\sin(b) = \dfrac{1}{2}[\cos(a-b) - \cos(a+b)]$
- $\cos(a)\cos(b) = \dfrac{1}{2}[\cos(a-b) + \cos(a+b)]$
- $\sin(a)\cos(b) = \dfrac{1}{2}[\sin(a+b) + \sin(a-b)]$

Identidades de Soma a Produto

- $\sin(a) + \sin(b) = 2\sin\left(\dfrac{a+b}{2}\right)\cos\left(\dfrac{a-b}{2}\right)$
- $\sin(a) - \sin(b) = 2\cos\left(\dfrac{a+b}{2}\right)\sin\left(\dfrac{a-b}{2}\right)$
- $\cos(a) + \cos(b) = 2\cos\left(\dfrac{a+b}{2}\right)\cos\left(\dfrac{a-b}{2}\right)$
- $\cos(a) - \cos(b) = -2\sin\left(\dfrac{a+b}{2}\right)\sin\left(\dfrac{a-b}{2}\right)$