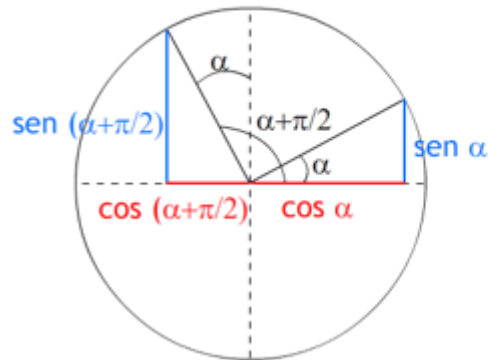
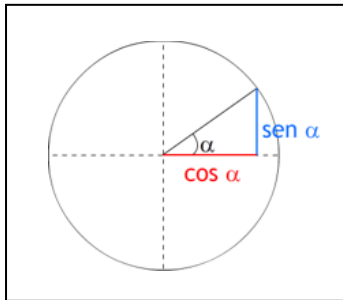


Trigonometría básica

IES La Magdalena.
Avilés. Asturias

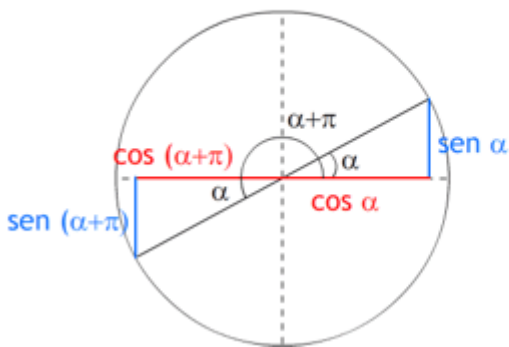
Ángulos que se diferencian en $\pi/2$



$$\text{sen } \alpha = -\text{cos } (\alpha + \pi/2)$$

$$\text{cos } \alpha = \text{sen } (\alpha + \pi/2)$$

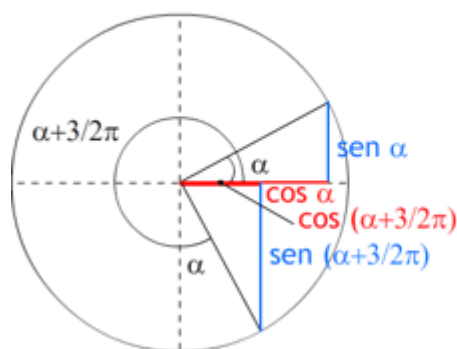
Ángulos que se diferencian en π



$$\text{sen } \alpha = -\text{sen } (\alpha + \pi)$$

$$\text{cos } \alpha = -\text{cos } (\alpha + \pi)$$

Ángulos que se diferencian en $3/2\pi$



$$\text{sen } \alpha = \text{cos } (\alpha + 3/2\pi)$$

$$\text{cos } \alpha = -\text{sen } (\alpha + 3/2\pi)$$

$$\begin{aligned} \text{sen } (\alpha + \beta) &= \text{sen } \alpha \text{ cos } \beta + \text{cos } \alpha \text{ sen } \beta \\ \text{sen } (\alpha - \beta) &= \text{sen } \alpha \text{ cos } \beta - \text{cos } \alpha \text{ sen } \beta \\ \text{sen } (2\alpha) &= 2 \text{ sen } \alpha \text{ cos } \alpha \\ \text{cos } (\alpha + \beta) &= \text{cos } \alpha \text{ cos } \beta - \text{sen } \alpha \text{ sen } \beta \\ \text{cos } (\alpha - \beta) &= \text{cos } \alpha \text{ cos } \beta + \text{sen } \alpha \text{ sen } \beta \\ \text{cos } (2\alpha) &= \text{cos}^2 \alpha - \text{sen}^2 \alpha \end{aligned}$$