

EJERCITACION

1) Resuelve la ecuación:

a)

$$2 \operatorname{sen}^2 x - 1 = 0$$

b)

$$2 \cdot \cos^2 x + \cos x - 1 = 0$$

c)

$$\operatorname{tg}^2 x - \operatorname{tg} x = 0$$

d)

$$2 \operatorname{sen}^2 x + 3 \cos x = 3$$

2) Demuestra la siguiente igualdad trigonométrica:

a)

$$(\operatorname{sen} \alpha + \cos \alpha)^2 + (\operatorname{sen} \alpha - \cos \alpha)^2 = 2$$

b)

$$\operatorname{tg} \alpha + \operatorname{cotg} \alpha = \frac{1}{\operatorname{sen} \alpha \cdot \cos \alpha}$$

c)

$$\frac{\operatorname{sen} \alpha + \operatorname{cotg} \alpha}{\operatorname{tg} \alpha + \operatorname{cosec} \alpha} = \cos \alpha$$

d)

$$\frac{\operatorname{sen} \alpha \cdot \cos \alpha}{\cos^2 \alpha - \operatorname{sen}^2 \alpha} = \frac{\operatorname{tg} \alpha}{1 - \operatorname{tg}^2 \alpha}$$

e)

$$\frac{1 + \operatorname{tg}^2 \alpha}{\operatorname{cotg} \alpha} = \frac{\operatorname{tg} \alpha}{\cos^2 \alpha}$$

f)

$$\cotg \alpha - \frac{\cotg^2 \alpha - 1}{\cotg \alpha} = \tg \alpha$$