

PROBLEMAS DE TRIGONOMETRÍA

Problema 28:

Resolver

$$\operatorname{sen} x + \cos x = \sqrt{2}$$

Solución Problema 28:

$$\operatorname{sen} x + \cos x = \sqrt{2}$$

$$(\operatorname{sen} x + \cos x)^2 = (\sqrt{2})^2$$

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

$$1 + 2\operatorname{sen} x \cos x = 2$$

$$1 + 2\operatorname{sen} x \cos x = 2$$

$$2\operatorname{sen} x \cos x = 1$$

$$\operatorname{sen} 2x = 1$$

Sea $2x = t$

$$\operatorname{sen} t = 1$$

$$t = \operatorname{arcsen} 1 = 90^\circ$$

$$2x = t$$

$$x = \frac{t}{2} = \frac{90}{2} = 45^\circ$$