

## PROBLEMAS DE TRIGONOMETRÍA

Problema 219:

Partiendo de la relación:

$$\operatorname{arc\,tg} x + \operatorname{arc\,tg} y = \operatorname{arc\,tg} \frac{x + y}{1 - xy}$$

Comprueba que:

$$\operatorname{arc\,tg} \frac{1}{2} + \operatorname{arc\,tg} \frac{1}{3} = \frac{\pi}{4}$$

Solución Problema 219:

Sabemos que:

$$x = \frac{1}{2}$$

$$y = \frac{1}{3}$$

Luego, aplicando la identidad:

$$\begin{aligned} \operatorname{arc\,tg} \frac{1}{2} + \operatorname{arc\,tg} \frac{1}{3} &= \operatorname{arc\,tg} \frac{\frac{1}{2} + \frac{1}{3}}{1 - \frac{1}{2} \cdot \frac{1}{3}} = \operatorname{arc\,tg} \frac{\frac{5}{6}}{1 - \frac{1}{6}} = \operatorname{arc\,tg} \frac{\frac{5}{6}}{\frac{5}{6}} = \\ &= \operatorname{arc\,tg} \frac{5}{5} = \operatorname{arc\,tg} 1 = 45^\circ = \frac{\pi}{4} \end{aligned}$$