

T.P.Nº 3- IDENTIDADES TRIGONOMÉTRICAS I

Verifica las siguientes identidades trigonométricas utilizando las relaciones conocidas.

$$1. 1 + \operatorname{sen} a \cdot \operatorname{tg} a = \frac{\operatorname{sen} a + \operatorname{cotg} a}{\operatorname{cotg} a}$$

$$2. \operatorname{tg} a + \operatorname{cotg} a = \frac{1}{\operatorname{sen} a \cdot \cos a}$$

$$3. \frac{(1 + \cos a)(1 - \cos a)}{\cos a} = \sec a - \cos a$$

$$4. (\operatorname{sen} a + \cos a)^2 + (\operatorname{sen} a - \cos a)^2 = \operatorname{tg}^2 a \cdot \cos^2 a + \operatorname{cotg}^2 a$$

$$5. \sec^2 b \cdot (1 - \operatorname{sen}^2 b) = 1$$

$$6. \frac{\cos b}{1 + \operatorname{sen} b} = \sec b - \operatorname{tg} b$$

$$7. 2 \sec^2 b = \frac{1}{1 - \operatorname{sen} b} + \frac{1}{1 + \operatorname{sen} b}$$

$$8. \operatorname{cotg}^2 a \cdot \sec^2 a = 1 + \operatorname{cotg}^2 a$$

$$9. \operatorname{sen}^4 u - \cos^4 u = 1 - 2 \frac{\operatorname{cotg}^2 u}{\operatorname{cosec}^2 u}$$

$$10. \frac{\operatorname{tg} u - \operatorname{sen} u}{\operatorname{sen}^3 u} = \frac{\sec u}{1 + \cos u}$$