EXERCÍCIOS DE FIXAÇÃO - IDENTIDADES TRIGONOMÉTRICAS - prof. Hipácia

IDENTIDADES FUNDAMENTAIS

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

$\operatorname{sen}(\pi/2 - x) = \cos x$

$\operatorname{sen}(-x) = -\operatorname{sen} x$

$\operatorname{sen} x = \operatorname{sen}(\pi - x)$

$\cos x = -\cos(\pi - x)$

$\cos(-x) = \cos x$

$\sec x = 1/\cos x$

$\operatorname{cossec} x = 1/\operatorname{sen} x$

$\sec^2 x = 1 + \operatorname{tg}^2 x$

$\operatorname{cossec}^2 x = 1 + \operatorname{cotg}^2 x$

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

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

$\cos 2x = 2\cos^2 x - 1$

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

$\operatorname{sen}(a+b) = \operatorname{sen} a \cdot \cos b + \operatorname{sen} b \cdot \cos a$

$\cos(a+b) = \cos a \cdot \cos b - \operatorname{sen} a \cdot \operatorname{sen} b$

$\operatorname{tg}(a+b) = \dfrac{\operatorname{tg} a + \operatorname{tg} b}{1 - \operatorname{tg} a \cdot \operatorname{tg} b}$

1. $(\operatorname{tg} x + \operatorname{cotg} x)\operatorname{sen} x = ?$

2. $\operatorname{tg} x(1+\cos x) - \operatorname{sen}^2 x \cdot \operatorname{cossec} x = ?$

3. $(3\operatorname{sen} x + 2\cos x)^2 + (2\operatorname{sen} x - 3\cos x)^2 = ?$

4. $\dfrac{(1 + \operatorname{sen} x)^2 + \cos^2 x - 2}{\operatorname{sen} x} = ?$

5. $\operatorname{sen}^2 x(\operatorname{tg} x + \operatorname{cotg} x) = ?$

6. $\dfrac{\cos^4 x - \operatorname{sen}^4 x}{2\cos^2 x - 1} = ?$

7. $\dfrac{\operatorname{sen} x}{1 - \cos x} - \operatorname{cotg} x = ?$