

### Tabela de Relações Trigonométricas

|   |   |
|---|---|
| 01) $\text{sen}^2 x + \text{cos}^2 x = 1$   | 02) $1 + \text{tg}^2 x = \text{sec}^2 x$  |
| 03) $1 + \text{cotg}^2 x = \text{cosec}^2 x$  | 04) $\text{sen}(-x) = -\text{sen } x$   |
| 05) $\text{cos}(-x) = \text{cos } x$  | 06) $\text{tg}(-x) = -\text{tg } x$   |
| 07) $\text{cosec } x = \frac{1}{\text{sen } x}$   | 08) $\text{sec } x = \frac{1}{\text{cos } x}$   |
| 09) $\text{cotg } x = \frac{1}{\text{tg } x}$   | 10) $\text{tg } x = \frac{\text{sen } x}{\text{cos } x}$  |
| 11) $\text{cotg } x = \frac{\text{cos } x}{\text{sen } x}$  | 12) $\text{sen}(a \pm b) = \text{sen } a \cdot \text{cos } b \pm \text{cos } a \cdot \text{sen } b$                               |
| 13) $\text{cos}(a \pm b) = \text{cos } a \cdot \text{cos } b \mp \text{sen } a \cdot \text{sen } b$             | 14) $\text{tg}(a + b) = \frac{\text{tg } a + \text{tg } b}{1 - \text{tg } a \cdot \text{tg } b}$                                  |
| 15) $\text{tg}(a - b) = \frac{\text{tg } a - \text{tg } b}{1 + \text{tg } a \cdot \text{tg } b}$                | 16) $\text{cos}^2 x = \frac{1}{2}(1 + \text{cos } 2x)$  |
| 17) $\text{sen}^2 x = \frac{1}{2}(1 - \text{cos } 2x)$  | 18) $\text{sen } 2x = 2 \text{sen } x \cdot \text{cos } x$  |
| 19) $\text{cos } 2x = \text{cos}^2 x - \text{sen}^2 x = 1 - 2 \text{sen}^2 x = 2 \text{cos}^2 x - 1$            | 20) $\text{tg } 2x = \frac{2 \text{tg } x}{1 - \text{tg}^2 x}$  |
| 21) $\left  \text{sen} \frac{x}{2} \right  = \sqrt{\frac{1 - \text{cos } x}{2}}$                                | 22) $\left  \text{cos} \frac{x}{2} \right  = \sqrt{\frac{1 + \text{cos } x}{2}}$  |
| 23) $\text{tg} \frac{x}{2} = \frac{1 - \text{cos } x}{\text{sen } x} = \frac{\text{sen } x}{1 + \text{cos } x}$ | 24) $\text{sen } x \cdot \text{cos } y = \frac{1}{2} [\text{sen}(x - y) + \text{sen}(x + y)]$                                     |
| 25) $\text{sen } x \cdot \text{sen } y = \frac{1}{2} [\text{cos}(x - y) - \text{cos}(x + y)]$                   | 26) $\text{cos } x \cdot \text{cos } y = \frac{1}{2} [\text{cos}(x - y) + \text{cos}(x + y)]$                                     |
| 27) $\text{cos } x \cdot \text{sen } y = \frac{1}{2} [\text{sen}(x + y) - \text{sen}(x - y)]$                   | 28) $\text{sen } x - \text{sen } y = 2 \text{sen} \left( \frac{x - y}{2} \right) \cdot \text{cos} \left( \frac{x + y}{2} \right)$ |
| 29) $\text{sen } x \cdot \text{cos } x = \frac{1}{2} \text{sen } 2x$  | 30) $1 - \text{cos } x = 2 \text{sen}^2 \frac{x}{2}$  |
| 31) $1 + \text{cos } x = 2 \text{cos}^2 \frac{x}{2}$  | 32) $1 \pm \text{sen } x = 1 \pm \text{cos} \left( \frac{\pi}{2} - x \right)$   |
| 33) $\text{cos } 2\theta = \text{cos}^2 \theta - \text{sen}^2 \theta$   |   |