

# TABULKA DŮLEŽITÝCH HODNOT

|                         | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$      | $\frac{\pi}{3}$      | $\frac{\pi}{2}$ | $\pi$ | $\frac{3\pi}{2}$ | $2\pi$ |
|-------------------------|---|----------------------|----------------------|----------------------|-----------------|-------|------------------|--------|
| $\sin x$                | 0 | $\frac{1}{2}$        | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | 1               | 0     | -1               | 0      |
| $\cos x$                | 1 | $\frac{\sqrt{3}}{2}$ | $\frac{\sqrt{2}}{2}$ | $\frac{1}{2}$        | 0               | -1    | 0                | 1      |
| $\operatorname{tg} x$   | 0 | $\frac{\sqrt{3}}{3}$ | 1                    | $\sqrt{3}$           | -               | 0     | -                | 0      |
| $\operatorname{cotg} x$ | - | $\sqrt{3}$           | 1                    | $\frac{\sqrt{3}}{3}$ | 0               | -     | 0                | -      |

$$\operatorname{tg} = \frac{\sin}{\cos}$$

$$\operatorname{cotg} = \frac{\cos}{\sin}$$

$$\operatorname{tg} = \frac{1}{\operatorname{cotg}}$$

$$\sin x \cdot \cos x = 1$$

$$\sin^2 x + \cos^2 x = 1$$

$\forall x \in (0, \frac{\pi}{2})$ :

$$\sin x = \cos(\frac{\pi}{2} - x)$$

$$\cos x = \sin(\frac{\pi}{2} - x)$$

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

$$\sin x = -\sin(\pi + x)$$

$$\sin x = -\sin(2\pi - x)$$

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

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

$$\cos x = \cos(2\pi - x)$$

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

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

$$\sin(x+y) = \sin x \cos y + \cos x \sin y$$

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

$$\cos(x+y) = \cos x \cos y - \sin x \sin y$$

$$\cos(x-y) = \cos x \cos y + \sin x \sin y$$

$$\operatorname{tg}(x+y) = \frac{\operatorname{tg} x + \operatorname{tg} y}{1 - \operatorname{tg} x \cdot \operatorname{tg} y}$$

$$\operatorname{tg}(x-y) = \frac{\operatorname{tg} x - \operatorname{tg} y}{1 + \operatorname{tg} x \cdot \operatorname{tg} y}$$

$$\sin 2x = 2 \sin x \cos x$$

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

$$\operatorname{tg} 2x = \frac{2 \operatorname{tg} x}{1 - \operatorname{tg}^2 x}$$

$$\sin\left(\frac{x}{2}\right) = \pm \sqrt{\frac{1 - \cos x}{2}}$$

$$\cos\left(\frac{x}{2}\right) = \pm \sqrt{\frac{1 + \cos x}{2}}$$

$$\sin x \pm \sin y = 2 \cdot \sin\left(\frac{x \pm y}{2}\right) \cdot \cos\left(\frac{x \mp y}{2}\right)$$

$$\cos x + \cos y = 2 \cdot \cos\left(\frac{x+y}{2}\right) \cdot \cos\left(\frac{x-y}{2}\right)$$

$$\cos x - \cos y = -2 \cdot \sin\left(\frac{x+y}{2}\right) \cdot \sin\left(\frac{x-y}{2}\right)$$

stupně na radiány:

$$\cdot \frac{\pi}{180}$$

radiány na stupně:

$$\cdot \frac{180}{\pi}$$