

**Funcțiile trigonometrice pt. argumentul dublu și triplu**

$$\begin{aligned} \sin 2x &= 2\sin x \cos x \\ \cos 2x &= \cos^2 x - \sin^2 x \\ \cos 2x &= 1 - 2\sin^2 x \\ \cos 2x &= 2\cos^2 x - 1 \\ \operatorname{tg} 2x &= \frac{2\operatorname{tg} x}{1 - \operatorname{tg}^2 x}, \quad \cos x \neq 0, \cos 2x \neq 0 \end{aligned}$$

$$\begin{aligned} \sin 3x &= 3\sin x - 4\sin^3 x \\ \cos 3x &= 4\cos^3 x - 3\cos x \end{aligned}$$

$$\begin{aligned} \sin x &= 2\sin \frac{x}{2} \cos \frac{x}{2} \\ \cos x &= \cos^2 \frac{x}{2} - \sin^2 \frac{x}{2} \\ \operatorname{tg} x &= \frac{2\operatorname{tg} \frac{x}{2}}{1 - \operatorname{tg}^2 \frac{x}{2}}, \quad \cos \frac{x}{2} \neq 0. \end{aligned}$$

$$\begin{aligned} \sin^2 x &= \frac{1 - \cos 2x}{2} \\ \cos^2 x &= \frac{1 + \cos 2x}{2} \end{aligned}$$

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