Goniometrické vzorce

- $\sin(\alpha+\beta)=\sin\alpha\cos\beta+\cos\alpha\sin\beta,$
- $\cos(\alpha+\beta)=\cos\alpha\cos\beta-\sin\alpha\sin\beta,$
- $\sin 2\alpha=2\sin\alpha\cos\alpha,\quad \cos 2\alpha=\cos^2\alpha-\sin^2\alpha,\quad \cos^2\alpha+\sin^2\alpha=1,$
- $\cos^2\alpha=\dfrac{1+\cos 2\alpha}{2},\quad \sin^2\alpha=\dfrac{1-\cos 2\alpha}{2},$
- $\cos\alpha\cos\beta=\frac{1}{2}\left(\cos(\alpha+\beta)+\cos(\alpha-\beta)\right),$
- $\sin\alpha\sin\beta=\frac{1}{2}\left(\cos(\alpha-\beta)-\cos(\alpha+\beta)\right),$
- $\sin\alpha\cos\beta=\frac{1}{2}\left(\sin(\alpha-\beta)+\sin(\alpha+\beta)\right).$
- $\sin 0=\cos\dfrac{\pi}{2}=\dfrac{\sqrt{0}}{2},\quad \sin\dfrac{\pi}{6}=\cos\dfrac{\pi}{3}=\dfrac{\sqrt{1}}{2},\quad \sin\dfrac{\pi}{4}=\cos\dfrac{\pi}{4}=\dfrac{\sqrt{2}}{2},$
- $\sin\dfrac{\pi}{3}=\cos\dfrac{\pi}{6}=\dfrac{\sqrt{3}}{2},\quad \sin\dfrac{\pi}{2}=\cos 0=\dfrac{\sqrt{4}}{2},$
- $\cos n\pi=(-1)^n,\ \sin(2k-1)\dfrac{\pi}{2}=(-1)^{k+1},\ \cos(2k-1)\dfrac{\pi}{2}=0,$

Integrály

- $\int e^{\alpha x}\cos\beta x\,dx=\dfrac{e^{\alpha x}}{\alpha^2+\beta^2}\left(\alpha\cos\beta x+\beta\sin\beta x\right),$
- $\int e^{\alpha x}\sin\beta x\,dx=\dfrac{e^{\alpha x}}{\alpha^2+\beta^2}\left(\alpha\sin\beta x-\beta\cos\beta x\right),$

Substitúcie

- $\operatorname{tg}\frac{x}{2}=t,\ x=2\operatorname{arctg}t,\ dx=\frac{2\,dx}{1+t^2},\ \sin x=\frac{2t}{t^2+1},\ \cos x=\frac{1-t^2}{t^2+1},$
- $\operatorname{tg}x=t,\ x=\operatorname{arctg}t,\ dx=\frac{dx}{1+t^2},\ \sin^2 x=\frac{t^2}{t^2+1},\ \cos^2 x=\frac{1}{t^2+1},\ \sin 2x=\frac{2t}{t^2+1},$
- $\sqrt[k]{\dfrac{ax+b}{cx+d}}=t,\ \dfrac{ax+b}{cx+d}=t^k,\ x=?,\ dx=?,$
- $a>0,\ \sqrt{ax^2+bx+c}=\sqrt{a}x\pm t,\ ax^2+bx+c=ax^2\pm 2\sqrt{a}xt+t^2,\ x=?,\ dx=?\ \sqrt{ax^2+bx+c}=?$
- $c>0,\ \sqrt{ax^2+bx+c}=\sqrt{c}\pm xt,\ ax^2+bx+c=c\pm 2\sqrt{c}xt+x^2t^2,\ x=?,\ dx=?\ \sqrt{ax^2+bx+c}=?$
- $x=\varrho\cos\varphi,\ y=\varrho\sin\phi,\ J_g(\varrho,\varphi)=\varrho,$
- $x=\varrho\cos\varphi,\ y=\varrho\sin\varphi,\ z=u,\quad J_g(\varrho,\varphi,u)=\varrho,$
- $x=\varrho\cos\varphi\cos\vartheta,\ y=\varrho\sin\varphi\cos\vartheta,\ z=\varrho\sin\vartheta,\quad J_g(\varrho,\varphi,\vartheta)=\varrho^2\cos\vartheta.$