WZORY ANL1

$\cos(\alpha \pm \beta) = \cos\alpha\cos\beta \mp \sin\alpha\sin\beta$

$\sin(\alpha \pm \beta) = \sin\alpha\cos\beta \pm \cos\alpha\cos\beta$

$\cos\alpha \cdot \cos\beta = \frac{1}{2}\left[\cos(\alpha+\beta) + \cos(\alpha-\beta)\right]$

$\sin\alpha \cdot \sin\beta = \frac{1}{2}\left[\cos(\alpha-\beta) - \cos(\alpha+\beta)\right]$

$\sin\alpha \cdot \cos\beta = \frac{1}{2}\left[\sin(\alpha+\beta) + \sin(\alpha-\beta)\right]$

$(x^a)' = ax^{a-1}$

$(a^x)' = a^x \cdot \ln a$

$$(\log_a x)' = \frac{1}{x \cdot \ln a}$$

$(\sin x)' = \cos x$

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

$$(\mathrm{tg} x)' = \frac{1}{\cos^2 x} = \mathrm{tg}^2 x + 1$$

$$(\mathrm{ctg} x) = -\frac{1}{\sin^2 x} = -\mathrm{ctg}^2 x - 1$$

$$(\mathrm{arcsin} x)' = \frac{1}{\sqrt{1-x^2}} = -\left(\mathrm{arccos} x\right)'$$

$$(\mathrm{arctg} x)' = \frac{1}{x^2+1} = -\left(\mathrm{arcctg} x\right)'$$

$(f \cdot g)' = f' \cdot g + f \cdot g'$

$$\left(\frac{f}{g}\right)' = \frac{f' \cdot g - f \cdot g'}{g^2}$$

$$\int f' \cdot g = f \cdot g - \int f \cdot g'$$

$$\int \frac{\mathrm{dx}}{x^2+a^2} = \frac{1}{a}\mathrm{arctg}\frac{x}{a} + C, \quad a \neq 0$$

$$\int \frac{\mathrm{dx}}{x^2-a^2} = \frac{1}{2a}\ln\left|\frac{x-a}{x+a}\right| + C, \quad a \neq 0$$

$$\int \frac{\mathrm{dx}}{\sqrt{x^2+k}} = \ln\left|x + \sqrt{x^2+k}\right| + C$$

$$\int \sqrt{x^2+k}\,\mathrm{dx} = \frac{k}{2}\ln\left|x + \sqrt{x^2+k}\right| + \frac{x}{2}\sqrt{x^2+k} + C$$

$$\int \frac{\mathrm{dx}}{\sqrt{a^2-x^2}} = \mathrm{arcsin}\frac{x}{a} + C, \quad a \neq 0$$

$$\int \sqrt{a^2-x^2}\,\mathrm{dx} = \frac{a^2}{2}\mathrm{arcsin}\frac{x}{a} + \frac{x}{2}\sqrt{a^2-x^2} + C, \quad a \neq 0$$