

1. $\int u^\alpha du = \frac{u^{\alpha+1}}{\alpha+1} + C \quad (\alpha \neq -1).$
2. $\int \frac{du}{u} = \ln |u| + C.$
3. $\int a^u du = \frac{a^u}{\ln a} + C \quad (a > 0, a \neq 1).$
4. $\int e^u du = e^u + C.$
5. $\int \sin u du = -\cos u + C.$
6. $\int \cos u du = \sin u + C.$
7. $\int \frac{du}{\cos^2 u} = \operatorname{tg} u + C.$
8. $\int \frac{du}{\sin^2 u} = -\operatorname{ctg} u + C.$
9. $\int \operatorname{sh} u du = \operatorname{ch} u + C.$
10. $\int \operatorname{ch} u du = \operatorname{sh} u + C.$
11. $\int \frac{du}{\operatorname{ch}^2 u} = \operatorname{th} u + C.$
12. $\int \frac{du}{\operatorname{sh}^2 u} = -\operatorname{cth} u + C.$

$$13. \int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln \left| \frac{u - a}{u + a} \right| + C \quad (a \neq 0).$$

$$14. \int \frac{du}{u^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{u}{a} + C \quad (a \neq 0).$$

$$15. \int \frac{du}{\sqrt{u^2 \pm a^2}} = \ln \left| u + \sqrt{u^2 \pm a^2} \right| + C \quad (|u| > |a|).$$

$$16. \int \frac{du}{\sqrt{a^2 - u^2}} = \arcsin \frac{u}{a} + C \quad (|u| < |a|).$$

$$17. \int \operatorname{tg} u \, du = -\ln |\cos u| + C.$$

$$18. \int \operatorname{ctg} u \, du = \ln |\sin u| + C.$$

Якщо $\int f(x) dx = F(x) + C$, то для будь-яких сталих k та b

$$\int f(kx + b) dx = \frac{1}{k} F(kx + b) + C.$$

$$\int f(kx) dx = \frac{1}{k} F(kx) + C;$$

$$\int f(x + b) dx = F(x + b) + C.$$

$$\int e^{kx} dx = \frac{1}{k} e^{kx} + C \quad (k - \text{стала, } k \neq 0).$$

$$\int \cos kx dx = \frac{1}{k} \sin kx + C \quad (k - \text{стала, } k \neq 0).$$