ТАБЛИЦА ОСНОВНЫХ ИНТЕГРАЛОВ

1. $\int x^n dx = \frac{x^{n+1}}{n+1} + C$, $(n \neq -1)$,

2. $\int \frac{1}{x} dx = \ln|x| + C$,

3. $\int \cos x dx = \sin x + C$,

4. $\int \sin x dx = -\cos x + C$,

5. $\int \operatorname{tg} x dx = -\ln|\cos x| + C$,

6. $\int \operatorname{ctg} x dx = \ln|\sin x| + C$,

7. $\int \frac{1}{\cos^2 x} dx = \operatorname{tg} x + C$,

8. $\int \frac{1}{\sin^2 x} dx = -\operatorname{ctg} x + C$,

9. $\int e^x dx = e^x + C$,

10. $\int a^x dx = \frac{a^x}{\ln a} + C$, $(a > 0, \quad a \neq 1)$,

11. $\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$, $(a \neq 0)$,

12. $\int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsin \frac{x}{a} + C$, $(a > 0)$,

13. $\int \frac{dx}{\sqrt{a^2 + x^2}} = \ln\left|x + \sqrt{a^2 + x^2}\right| + C$, $(a \neq 0)$

14. $\int \frac{dx}{\sqrt{x^2 - a^2}} = \ln\left|x + \sqrt{x^2 - a^2}\right| + C$, $(a \neq 0)$

15. $\int \operatorname{ch} x dx = \operatorname{sh} x + C$,

16. $\int \operatorname{sh} x dx = \operatorname{ch} x + C$,

17. $\int \frac{dx}{\operatorname{ch}^2 x} = \operatorname{th} x + C$,

18. $\int \frac{dx}{\operatorname{sh}^2 x} = -\operatorname{cth} x + C$,