

Таблица интегралов

1.  $\int dx = x + C$ , где  $C = \text{const}$

2.  $\int x^n dx = \frac{x^{n+1}}{n+1} + C$

3.  $\int \frac{dx}{x} = \ln |x| + C$

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

5.  $\int \cos x dx = \sin x + C$

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

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

8.  $\int e^x dx = e^x + C$

9.  $\int a^x dx = \frac{a^x}{\ln a} + C$

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

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

12.  $\int \frac{dx}{1+x^2} = \operatorname{arctg} x + C$

13.  $\int \frac{dx}{a^2+x^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$

14.  $\int \frac{dx}{a^2-x^2} = \frac{1}{2a} \ln \left| \frac{a+x}{a-x} \right| + C$

15.  $\int \frac{dx}{\sqrt{a^2-x^2}} = \operatorname{arcsin} \frac{x}{a} + C$

16.  $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln |x + \sqrt{x^2 \pm a^2}| + C$