Таблица интегралов

1. $\int dx = x + c$
2. $\int x^n dx = \frac{x^{n+1}}{n+1} + c\,,\ n \neq -1$
3. $\int \frac{dx}{x} = \ln|x| + c$
4. $\int a^x dx = \frac{a^x}{\ln a} + c$
5. $\int e^x dx = e^x + c$
6. $\int \cos x dx = \sin x + c$
7. $\int \sin x dx = -\cos x + c$
8. $\int \frac{dx}{\cos^2 x} = \operatorname{tg} x + c$
9. $\int \frac{dx}{\sin^2 x} = -\operatorname{ctg} x + c$
10. $\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + c$
11. $\int \frac{dx}{1+x^2} = \operatorname{arctg} x + c$

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12. $\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin \frac{x}{a} + c$
13. $\int \frac{dx}{a^2+x^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + c$
14. $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln\left|x + \sqrt{x^2 \pm a^2}\right| + c$
15. $\int \sqrt{a^2-x^2}\,dx = \frac{x}{2}\sqrt{a^2-x^2} + \frac{a^2}{2} \arcsin \frac{x}{a} + c$
16. $\int \sqrt{x^2 \pm a^2}\,dx =$

$$= \frac{x}{2}\sqrt{x^2 \pm a^2} \pm \frac{a^2}{2} \ln\left|x + \sqrt{x^2 \pm a^2}\right| + c$$

17. $\int \frac{dx}{x^2-a^2} = \frac{1}{2a} \ln\left|\frac{x-a}{x+a}\right| + c$
18. $\int \frac{dx}{\sin x} = \ln\left|\operatorname{tg} \frac{x}{2}\right| + c$
19. $\int \frac{dx}{\cos x} = \ln\left|\operatorname{tg}\left(\frac{\pi}{4} + \frac{x}{2}\right)\right| + c$