# Integraalide tabel

# Table of integrals

1. $\int x^\alpha dx = \dfrac{x^{\alpha+1}}{\alpha+1} + C, \quad \alpha \in \mathbb{R},\ \alpha \neq -1$

$\int dx = x + C$

$\int \dfrac{dx}{\sqrt{x}} = 2\sqrt{x} + C$

$\int \dfrac{dx}{x^2} = -\dfrac{1}{x} + C$

2. $\int \dfrac{dx}{x} = \ln|x| + C$

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

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

5. $\int \dfrac{dx}{\cos^2 x} = \tan x + C$

6. $\int \dfrac{dx}{\sin^2 x} = -\cot x + C$

7. $\int a^x dx = \dfrac{a^x}{\ln a} + C, \quad a > 0,\ a \neq 1$

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

9. $\int \dfrac{dx}{\sqrt{1-x^2}} = \arcsin x + C$

10. $\int \dfrac{dx}{\sqrt{a^2-x^2}} = \arcsin \dfrac{x}{a} + C$

11. $\int \dfrac{dx}{1+x^2} = \arctan x + C$

12. $\int \dfrac{dx}{a^2+x^2} = \dfrac{1}{a} \arctan \dfrac{x}{a} + C$

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

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

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

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

17. $\int \dfrac{dx}{\operatorname{sh}^2 x} = -\operatorname{cth} x + C$

18. $\int \dfrac{dx}{\operatorname{ch}^2 x} = \operatorname{th} x + C$