

## Integrace pomocí základních vzorců a úprav integrandu

$$1. \int \frac{x}{x^2+3} dx = \frac{1}{2} \ln|x^2+3| + c$$

$$2. \int \frac{x^2}{x^2+3} dx = x - \frac{3}{\sqrt{3}} \operatorname{arctg} \frac{x}{\sqrt{3}} + c$$

$$3. \int \frac{x^3}{x^2+3} dx = \frac{x^2}{2} - \frac{3}{2} \ln|x^2+3| + c$$

$$4. \int \frac{x^2}{x-1} dx = \frac{x^2}{2} + x + \ln|x-1| + c$$

$$5. \int \frac{(x+3)^2}{x^2} dx = x + 6 \ln|x| - \frac{9}{x} + c$$

$$6. \int \frac{\sqrt{x} - 2 \cdot \sqrt[3]{x}}{x} dx = 2\sqrt{x} - 6 \cdot \sqrt[3]{x} + c$$

$$7. \int x \left( \sqrt{x} + \frac{1}{x^4} \right) dx = \frac{2}{5} \sqrt{x^5} - \frac{1}{2x^2} + c$$

$$8. \int \frac{x^3 + 2x}{\sqrt{x}} dx = \frac{2}{7} \sqrt{x^7} + \frac{4}{3} \sqrt{x^3} + c$$

$$9. \int \sin(3x+4) dx = -\frac{1}{3} \cos(3x+4) + c$$

$$10. \int \sqrt[3]{5x-7} dx = \frac{3}{20} \cdot \sqrt[3]{(5x-7)^4} + c$$

$$11. \int e^{-x+2} dx = -e^{-x+2} + c$$

$$12. \int \frac{4x^2}{x^3+1} dx = \frac{4}{3} \ln|x^3+1| + c$$

$$13. \int 3 \cot x dx = 3 \ln|\sin x| + c$$

$$14. \int \frac{3}{x^2+5} dx = \frac{3}{\sqrt{5}} \operatorname{arctg} \frac{x}{\sqrt{5}} + c$$

$$15. \int \frac{2}{2-x^2} dx = \frac{1}{\sqrt{2}} \ln \left| \frac{\sqrt{2}+x}{\sqrt{2}-x} \right| + c$$

$$19. \int \frac{1}{\sqrt{x^2-5}} dx = \ln \left| x + \sqrt{x^2-5} \right| + c$$

$$20. \int \frac{1}{\sqrt{5-x^2}} dx = \arcsin \frac{x}{\sqrt{5}} + c$$

$$24. \int \frac{2 \cos x}{4 + \sin x} dx = 2 \ln |4 + \sin x| + c$$

$$25. \int \cot g^2 x dx = -\cot g x - x + c$$

$$26. \int \frac{x}{x-3} dx = x + 3 \ln |x-3| + c$$

$$27. \int \frac{1}{2x-3} dx = \frac{1}{2} \ln |2x-3| + c$$