

Indefinite integral (basic)

1. $\int 3x^7 dx$

2. $\int \sqrt[3]{x} dx$

3. $\int 10^x dx$

4. $\int 13^x e^x dx$

5. $\int \frac{\cos 2x}{\cos^2 x \sin^2 x} dx$

6. $\int \frac{1}{\cos 2x + \sin^2 x} dx$

7. $\int (3 - x^2)^3 dx$

8. Find antiderivative $F(x)$ (primitive function) to $f(x) = x^2(1 - x^2)$

9. $\int \sqrt[5]{x^2} dx$

10. $\int \left(\frac{1}{2x^2} - \frac{1}{2\sqrt{x}} \right) dx$

11. $\int (\sqrt{x} + 1)(x - \sqrt{x} + 1) dx$

12. $\int (1 - 2u) du$

13. $\int \frac{1}{\sqrt{2gh}} dh; \quad g = \text{const.}$

14. $\int \frac{1-x^2}{x} dx$

15. $\int \left(\frac{1-x}{x} \right)^2 dx$

16. $\int \left(\frac{1-x^2}{x\sqrt{x}} \right) dx$

17. Find antiderivative $F(x)$ (primitive function) to $f(x) = \frac{x}{x+1}$

18. Find antiderivative $F(x)$ (primitive function) to $f(x) = \frac{3}{1+4x^2}$

Per partes (integration by parts)

1. $\int x e^x dx$

2. $\int (1 - 3x) \sin x dx$

3. $\int x \ln x dx$

4. $\int \ln x dx$

5. $\int \ln(x^2 + 1) dx$

6. $\int \ln^2 x dx$

7. $\int (x^2 - 1)e^x dx$

8. $\int x \arctan x dx$