

Per partes (integration by parts)

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

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

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

4. $\int x \arctan x dx$

Substitution (I)

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

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

3. $\int \frac{3x^2}{x^3+1} dx$

4. $\int \frac{x}{\sqrt{x^2+1}} dx$

5. $\int \frac{1}{\sqrt{4-x^2}} dx$

6. $\int \frac{1}{4+9x^2} dx$

7. $\int r\sqrt{1-r^2} dr$

8. $\int \frac{e^{\sqrt{x}}}{\sqrt{x}} dx$

9. $\int \frac{\sqrt{\ln x}}{x} dx$

10. $\int \frac{e^{2x}}{2+e^{2x}} dx$

11. $\int \frac{\sin \varphi}{\cos^2 \varphi} d\varphi$

12. $\int e^{-x^3} x^2 dx$

13. $\int (x+1)\sqrt{x^2+2x} dx$

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

Combination of both methods

1. $\int x^2 e^{3x} dx$

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

3. $\int \frac{3x}{\sqrt{2x+1}} dx$

4. $\int \frac{x^3}{\sqrt{1+2x^2}} dx$