

(置換積分 / 部分積分は (なるべく) 使わずに . . .) ※作成者は意地悪です.

1 線形性、構造を捉えて、線形性!

1. $\int \left(\frac{1}{x^5} + e^{2x+1} \right) dx$

2. $\int (4x + 1)^{10} dx$

3. $\int \left(\sqrt[3]{x} - \frac{1}{\sqrt[3]{x}} \right)^3 dx$

4. $\int x \sin(50x^2) dx$

5. $\int x^2(1 + x^3) dx$

6. $\int \left(\frac{e^{\log x}}{x} + \sin \left(\frac{x}{5} - \pi \right) \right) dx$

7. $\int \sin^2 x \cos x dx$

8. $\int \frac{x}{(3x^2 + 5)^{\frac{3}{2}}} dx$

9. $\int \frac{\sqrt{2x} - x^7 e^{-4x^3+1}}{x^5} dx$

10. $\int \frac{e^{3x}}{\sin^2(e^{3x})} dx$

2 (見た目は) べき関数 power function

1. $\int (x^{\pi^2} + x^{-1}) dx$

2. $\int \frac{5}{(3x + 1)^3} dx$

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

4. $\int \frac{1}{x^2 + 4x + 8} dx$

5. $\int \frac{1}{\sqrt{-3x^2 + 15x + 1}} dx$

6. $\int (x^2 - 5x)^{-\frac{1}{2}} dx$

7. $\int \frac{1}{(x + 1)(1 - x)} dx$

8. $\int \frac{x}{(x + 1)(1 - x)} dx$

9. $\int \frac{x^2}{(x + 1)(1 - x)} dx$

10. $\int \frac{x^3}{(x + 1)(1 - x)} dx$