

1. 例にならって不定積分の公式を作れ .

例  $F(x) = x^2 + x, F'(x) = 2x + 1,$

$$\therefore \int (2x + 1) dx = x^2 + x + C \quad (\text{積分定数})$$

(1)  $F(x) = \frac{3}{4}x^{4/3}$

(2)  $F(x) = \frac{5}{2}x^{2/5}$

(3)  $F(x) = \frac{1}{4} \cos 4x$

(4)  $F(x) = \frac{1}{2} \sin(x^2)$

(5)  $F(x) = -x + x \log x$

(6)  $F(x) = \cos 4x$

(7)  $F(x) = -\frac{1}{5}e^{3-5x}$

(8)  $F(x) = \log |x - 1|$

(9)  $F(x) = x \sin^{-1} x$

(10)  $F(x) = \frac{1}{6} \log \left| \frac{x-3}{x+3} \right|$

(11)  $F(x) = \frac{1}{\sqrt{3}} \tan^{-1} \left( \frac{x-3}{\sqrt{3}} \right)$

(12)  $F(x) = \frac{1}{2} \log \left| \frac{1 - \cos x}{1 + \cos x} \right|$

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