

$$\int x \boxed{\phantom{0}} dx = \frac{1}{\boxed{\phantom{0}} + 1} x \boxed{\phantom{0}}^{+1} \quad \int \frac{1}{x} dx = \log|x|$$

【例題 49】

(1)

$$\int x^5 dx = \int x \boxed{\phantom{0}} dx = \frac{1}{\boxed{\phantom{0}} + 1} x \boxed{\phantom{0}}^{+1} = \boxed{\phantom{000000}} + C$$

(2)

$$\int x^{-7} dx = \int x \boxed{\phantom{0}} dx = \frac{1}{\boxed{\phantom{0}} + 1} x \boxed{\phantom{0}}^{+1} = \boxed{\phantom{000000}} + C$$

$$(3) \frac{1}{x^3} = x \boxed{\phantom{0}}$$

より

$$\int \frac{1}{x^3} dx = \int x \boxed{\phantom{0}} dx = \frac{1}{\boxed{\phantom{0}} + 1} x \boxed{\phantom{0}}^{+1} = \boxed{\phantom{000000}} + C$$

$$(4) \sqrt[5]{x^6} = x \boxed{\phantom{0}}$$

より

$$\int \sqrt[5]{x^6} dx = \int x \boxed{\phantom{0}} dx = \frac{1}{\boxed{\phantom{0}} + 1} x \boxed{\phantom{0}}^{+1} = \boxed{\phantom{000000}} + C$$

(5)

$$\int \left( t^{-1} + \frac{3}{t^4} \right) dt = \int (t \boxed{\phantom{00}} + 3t \boxed{\phantom{00}}) dt = \boxed{\phantom{000000000}}$$
$$= \boxed{\phantom{000000000}} + C$$

(6)

$$\int \frac{1}{\sqrt{x}} dx = \int x \boxed{\phantom{00}} dx = \frac{1}{\boxed{\phantom{00}}} x \boxed{\phantom{00}}^{+1} = \boxed{\phantom{000000000}} + C$$

(4) や (6) の場合,

$\frac{1}{\boxed{\phantom{00}}} x \boxed{\phantom{00}}^{+1}$  は、 $\frac{1}{\boxed{\phantom{00}}} + 1$  を計算すると分母の中に分数が出てくるので、

先に  $x \boxed{\phantom{00}}^{+1}$  を計算して  $\boxed{\phantom{00}} x \boxed{\phantom{00}}^{+1}$  とする。