

6 部分積分法

$$(1) \int_0^{\pi} x^2 \cos x dx \quad (2) \int_0^{\pi} x^2 \sin 2x dx \quad (3) \int_0^1 x^3 e^{-x} dx$$

$$(4) \int_0^1 (x^2 - 2x + 3)e^x dx \quad (5) \int_1^e x \log x dx$$

7 工夫が必要な積分法

$$(1) \int_0^{2\pi} \sqrt{1 + \cos x} dx \quad (2) \int_0^{\pi} \sin 3x \sin 2x dx \quad (3) \int_0^{\pi} \sin 5x \cos 3x dx$$

$$(4) \int_0^{\pi} e^x \sin x dx \quad (5) \int_1^2 \frac{1}{x(x+1)} dx$$