

⑥

$$i) \int x^8 + 4x^3 + 5x - 1 \, dx$$

$$\frac{x^9}{9} + \frac{4x^4}{4} + 5x$$

$$\boxed{\frac{x^9}{9} + x^4 + 5x + C}$$

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

$$\boxed{5x^6 + 2x + 1 + 5x^2 + C}$$

$$iii) \int 5 \sin 3x \, dx$$

$$5 \int \cos 3x \, dx$$

$$\boxed{5 \times \frac{1}{3} \cos 3x + C}$$

$$iv) \int_0^5 (x+5)(x+1) \, dx$$

$$\int_0^5 x^2 + x + 5x + 6$$