

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

$$(2) \int_{\ln 2}^{\ln 5} \frac{(e^x-2)e^x}{e^{2x}+2e^x+7} dx$$

$$(3) \int_0^{\frac{\pi}{2}} \frac{\sin x}{\cos^2 x - 5 \cos x + 6} dx$$

$$(4) \int_1^{64} \frac{2\sqrt{x}}{x(\sqrt[3]{x}+\sqrt{x})} dx$$

$$(5) \int_0^{\frac{\pi}{3}} \frac{(\cos^2 x + 1) \sin x}{\cos^4 x + \cos^3 x} dx$$

$$(6) \int_0^{\frac{\pi}{4}} \frac{4x}{\tan^2 x + \tan x + 1} dx$$

$$(7) \int_0^{\frac{\pi}{4}} \frac{\sin 2x}{\cos^4 x + \sin^4 x} dx$$

$$(8) \int_0^{\frac{\pi}{2}} \exp(2x) \sin x dx$$

$$(9) \int_1^e \ln^2 x dx$$

$$(10) \int_{\ln 3}^{\ln 5} \frac{e^{2x} + 2e^x - 3}{e^{2x} + e^x - 6} dx$$

$$(11) \int_0^{\ln 2} \frac{2e^x + 3}{e^{2x} + 2e^x + 2} \cdot e^x dx$$

$$(12) \int_4^9 \frac{\sqrt{x}}{\sqrt{x}-1} dx$$

$$(13) \int_{\frac{\pi}{6}}^{\frac{\pi}{2}} \frac{1}{\cos x - 2 \sin x + 3} dx$$

$$(14) \int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \frac{1 + \tan^2 x}{(1 + \tan x)^2} dx$$

$$(15) \int_0^{\frac{\pi}{2}} \sin 5x \cdot \cos x dx$$