

ESERCIZI SUGLI INTEGRALI

Calcolare i seguenti integrali:

$$(a) \int_0^{\pi/2} \frac{\cos x}{3 \sin x + \sin^2 x + 2} dx$$

$$(b) \int_0^2 \frac{1}{x + 2\sqrt{x} + 2} dx$$

$$(c) \int_0^{\pi/4} \log(1 + \sin x) \cdot \cos x(1 - \cos^2 x) dx$$

$$(d) \int_1^2 \sqrt{e^{2x} - 2} \cdot e^{4x} dx$$

$$(e) \int_{\pi/4}^{\pi/2} \frac{2 \sin x \cos x + 3 \sin x}{4 - \sin^2 x + 4 \cos x} dx$$

$$(f) \int_0^e \frac{\log(1 + \log(x + 1))}{1 + x} dx$$

$$(g) \int_0^1 (2x + 3) \arctan x dx$$

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

$$(i) \int_1^e x^{3 \log x} \frac{\log x}{2x} dx$$

$$(j) \int_1^2 \frac{e^{-2x}}{(e^{-x} - 1)^2} dx$$

$$(k) \int_0^1 \frac{(x - 1)\sqrt{2 - x}}{2\sqrt{x + 3} + x + 3} dx$$

$$(l) \int_0^{1/2} \frac{\sqrt{2 - 2x}}{\sqrt{2x + 1}} dx$$

$$(m) \int_e^{e^2} \frac{\log(2 + \log(x^2))}{x(4 - \log x)^2} dx$$

$$(n) \int_1^2 \frac{\sqrt{x + 4}}{3x^2} dx.$$