

Foglio 8

INTEGRALI INDEFINITI

Esercizio 1. Calcolare i seguenti integrali indefiniti:

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| (1) $\int x^2 e^{-x} dx$ | (2) $\int x \sin x dx$ |
| (3) $\int x^2 \cos 2x dx$ | (4) $\int x \sin x \cos x dx$ |
| (5) $\int x \sin^2 x dx$ | (6) $\int x \log^2 x dx$ |
| (7) $\int \arctan x dx$ | (8) $\int \frac{\log x}{x} dx$ |
| (9) $\int e^{3x} \sin 4x dx$ | (10) $\int \sin(2x) \cos(3x) dx$ |
| (11) $\int \frac{3}{9-x^2} dx$ | (12) $\int \frac{1-x}{x^2+x+1} dx$ |
| (13) $\int \frac{x}{x^2+8} dx$ | (14) $\int \frac{3x-2}{x^2-4x+4} dx$ |
| (15) $\int \frac{x^3+x}{x^2+2x+2} dx$ | (16) $\int \frac{x^2}{x^2-3x+2} dx$ |
| (17) $\int \frac{x}{x^3-8} dx$ | (18) $\int \frac{1}{x^3-4x^2+5x-1} dx$ |
| (19) $\int \frac{1}{x^4-1} dx$ | (20) $\int \frac{x^2-17x-7}{4x^3-8x^2-11x-3} dx$ |
| (21) $\int \sqrt{1+4x} dx$ | (22) $\int \frac{\sin(1+\sqrt{x})}{\sqrt{x}} dx$ |
| (23) $\int \sin \frac{3x-1}{2} dx$ | (24) $\int \frac{1}{e^x+1} dx$ |
| (25) $\int \frac{1}{e^x+e^{-x}} dx$ | (26) $\int \frac{\log^2 x}{x} dx$ |
| (27) $\int \frac{1}{1+\sqrt{x}} dx$ | (28) $\int x \cos(x^2) dx$ |
| (29) $\int \frac{\arctan x}{1+x^2} dx$ | (30) $\int \frac{1}{x+\sqrt{x}} dx$ |

$$(31) \int \frac{e^{2x}}{e^x + 1} dx \quad (32) \int \sin x \cos x \log(\sin x) dx$$

$$(33) \int x \cos^3 x dx \quad (34) \int \sqrt{4x^2 + 4x + 7} dx dx$$

$$(35) \int \cos x(1 + \cos^2 x) dx \quad (36) \int \sqrt{3 - 2x - x^2} dx dx$$

$$(37) \int \sqrt{x} \log x dx, \quad (38) \int \frac{1}{(1 + x^2) \arctan x} dx$$

$$(39) \int (x - 2)^2 e^x dx \quad (40) \int e^x \log(1 + e^x) dx$$