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Corso di laurea in Scienze Biologiche

Laurea Triennale

Matematica, Corso A (lettere A-M), Prof. E. Mascolo

ESERCITAZIONE 5

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- (1) $\int \frac{1}{\sqrt{1+x}}\,dx$, (2) $\int \tan x\,dx$, (3) $\int \frac{1}{(\sin x)^2(\cos x)^2}\,dx$, (4) $\int \frac{x-1}{\sqrt[3]{x^2}}\,dx$,

- (5) $\int \frac{1}{\sqrt{4-x^2}}\,dx$, (6) $\int \frac{1}{5+x^2}\,dx$, (7) $\int x\,7^{x^2}\,dx$, (8) $\int \coth x\,dx$,

- (9) $\int \frac{(1-\sin x)^2\cos x}{1+(\sin x)^2}\,dx$, (10) $\int \frac{1}{4x^2+25}\,dx$, (11) $\int \frac{e^{\tan x}}{1+\cos 2x}\,dx$,

- (12) $\int x\,e^x\,\sin x\,dx$, (13) $\int \sqrt{1-x^2}\,dx$, (14) $\int x^3\,\log x\,dx$,

- (15) $\int (\log x)^3\,dx$, (16) $\int \frac{x+2}{x^3-2x^2}\,dx$, (17) $\int \frac{e^x}{e^{2x}-3e^x+2}\,dx$,

- (18) $\int \frac{e^x-e^{-x}}{e^x+e^{-x}+2}\,dx$, (19) $\int \frac{1}{\sqrt{2x}\,(\sqrt[3]{2x}+1)}\,dx$ (sost. $2x=t^3$),

- (20) $\int_0^1 \frac{x-1}{x^2-4}\,dx$, (21) $\int_0^2 \frac{\log(2x+1)}{(2x+1)^2}\,dx$, (22) $\int_9^{16} \frac{\sqrt{x}-3}{x-3\sqrt{x}+2}\,dx$,

- (23) $\int_0^1 \frac{1}{3}\arctan 3x\,dx$, (24) $\int_1^2 \frac{(\log 3x)^2\,\cos(\log 3x-5)}{x}\,dx$,

- (25) $\int \frac{e^{\sqrt{x-1}}+5}{\sqrt{x-1}\,(3\,e^{\sqrt{x-1}}+e^{2\,\sqrt{x-1}})}\,dx$ (sost. $e^{\sqrt{x-1}}=t$),

- (26) $\int_{\frac{\pi}{2}}^{\pi} \frac{\sin 2x\,(\cos x)^2}{(\cos x)^2-7\,\cos x+6}\,dx$ (sost. $\cos x=t$),

- (27) $\int (x+1)\log(x^2+1)\,dx$, (28) $\int (x-1)\log(x^2-1)\,dx$,

- (29) $\int \frac{e^{3\arcsin x}}{(e^{3\arcsin x}-8)^2\,\sqrt{1-x^2}}\,dx$, (sost. $e^{3\arcsin x}=t$)

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