INTEGRALI

Esercizi proposti

1. Calcolare i seguenti integrali

$\int \frac{x}{1+x^2}\,dx$, $\int \frac{x}{\sqrt{a-x^2}}\,dx$ con $a>0$, $\int tgx\,dx$, $\int \frac{dx}{\sqrt{x+2}}$, $\int \frac{2}{(x-1)^2}\,dx$, $\int \frac{1}{2+x^2}\,dx$,

$\int \frac{x}{\sqrt{1+3x^2}}\,dx$, $\int \frac{1}{(1+x^2)arctgx}\,dx$, $\int \frac{(\lg x)^2+1}{x}\,dx$, $\int \frac{1}{x(\lg x)^n}dx$, $\int \frac{4}{arcsenx\sqrt{1-x^2}}\,dx$,

$\int (senx)^n \cos x\,dx$, $\int \cos^2 x\, senx\,dx$, $\int \cos^3 x\,dx$, $\int sen^3 x\,dx$, $\int sen^4 x\,dx$,

$\int \frac{x-1}{x+1}\,dx$, $\int \frac{x+2}{x+3}\,dx$, $\int \frac{x}{x^4-1}\,dx$, $\int \frac{1}{(x+2)^2}\,dx$, $\int \frac{x}{(x+3)^2}\,dx$, $\int \lg(x+2)\,dx$,

$\int arctg(x+1)\,dx$, $\int x^2 e^x dx$, $\int e^x cox\,dx$, $\int xsenx\,dx$, $\int \frac{dx}{(x-2)^2+4}$.

2. Calcolare per parti i seguenti integrali

$\int \frac{1}{x}\lg(\lg x)\,dx$, $\int x^3 \cos(x^2)\,dx$.

3. Calcolare i seguenti integrali

$\int \frac{dx}{x^2+3}$, $\int_0^{\sqrt{3}} \frac{dx}{x^2+3}$, $\int_0^x \frac{dt}{t^2+3}$, $\int \frac{dx}{x^2+x+2}$, $\int_{-1/2}^{1} \frac{dx}{x^2+x+2}$, $\int_{-1/2}^{x} \frac{dt}{t^2+t+2}$,

$\int \frac{xdx}{x^2+2x+3}$, $\int_{-1}^{0} \frac{xdx}{x^2+2x+3}$, $\int_{-1}^{x} \frac{tdt}{t^2+2t+3}$,

$\int \sqrt{1-x^2}\,dx$, $\int_0^1 \sqrt{1-x^2}\,dx$, $\int_x^0 \sqrt{1-t^2}\,dt$.