

calcolare i seguenti integrali definiti

1	$\int_1^3 2x \, dx$	8
2	$\int_2^4 (2x + 1) \, dx$	14
3	$\int_1^4 (3x + 1) \, dx$	$\frac{51}{2}$
4	$\int_0^3 x^2 \, dx$	9
5	$\int_{-5}^5 x^4 \, dx$	1250
6	$\int_0^4 \frac{x}{2} \, dx$	4
7	$\int_1^3 (x^2 + 2x + 3) \, dx$	$\frac{68}{3}$
8	$\int_1^2 \frac{1}{x} \, dx$	$\ln 2$
9	$\int_1^2 \frac{1}{x^2} \, dx$	$\frac{1}{2}$
10	$\int_1^2 \left(x^2 - \frac{2}{x^2} \right) \, dx$	$\frac{4}{3}$
11	$\int_3^5 \frac{2}{x+1} \, dx$	$2 \ln \frac{3}{2}$

12	$\int_0^{\frac{1}{2}} \frac{1}{1+4x^2} dx$	$\frac{\pi}{8}$
13	$\int_{-1}^0 \frac{x^3 - 1}{x - 1} dx$	$\frac{5}{6}$
14	$\int_2^{\frac{5}{2}} \frac{3x^4 - 2x^3 + x - 5}{x^3} dx$	$\frac{9}{4}$
15	$\int_1^2 \frac{2x}{1+x^2} dx$	$\ln \frac{5}{2}$
16	$\int_2^3 \frac{4x - 3}{2x^2 - 3x + 1} dx$	$\ln \frac{10}{3}$
17	$\int_{-1}^0 \frac{x^3}{x^4 - 3} dx$	$\frac{1}{4} \ln \frac{3}{2}$
18	$\int_1^3 \frac{x}{1+x^4} dx$	$\frac{\arctan(9)}{2} - \frac{\pi}{8}$
19	$\int_1^2 \frac{1}{x(x^2 + 5)} dx$	$\frac{1}{10} \ln \frac{8}{3}$
20	$\int_{\frac{1}{2}}^1 \frac{3x - 1}{x^2 + 3x} dx$	$\frac{29 \ln 2 - 10 \ln 7}{3}$

21	$\int_0^1 \frac{x^2 - 1}{x^2 + 1} dx$	$1 - \frac{\pi}{2}$
22	$\int_2^{10} \frac{2x^2 - x - 1}{x - 1} dx$	104
23	$\int_2^2 \frac{1}{x^2 + x + 5} dx$	0
24	$\int_2^3 \frac{x}{-x^4 + 2x^2 - 1} dx$	$-\frac{5}{48}$
25	$\int_0^1 \frac{2 + x^2 + x^4}{x^2 + 1} dx$	$\frac{\pi}{2} + \frac{1}{3}$
26	$\int_0^9 \sqrt{x} dx$	18
27	$\int_0^8 \sqrt[3]{x} dx$	12
28	$\int_1^3 \frac{1}{1 + \sqrt{x}} dx$	$2\sqrt{3} - 2 + 2\ln(\sqrt{3} - 1)$
29	$\int_0^{\frac{1}{2}} \frac{1}{\sqrt{1 - x^2}} dx$	$\frac{\pi}{6}$

30	$\int_0^2 \sqrt{4-x^2} \, dx$	π
31	$\int_0^1 e^x \, dx$	$e - 1$
32	$\int_0^1 2e^x \, dx$	$2e - 2$
33	$\int_{-1}^1 \left(\frac{2}{5}\right)^x \, dx$	$\frac{21}{10 \ln \frac{5}{2}}$
34	$\int_0^1 3 e^{4x-1} \, dx$	$\frac{3(e^4 - 1)}{4e}$
35	$\int_0^2 \frac{e^x}{1 + e^{2x}} \, dx$	$\arctan e^2 - \frac{\pi}{4}$
36	$\int_0^1 x e^x \, dx$	1
37	$\int_0^1 3 e^{\sqrt{x}} \, dx$	6
38	$\int_0^1 \frac{e^x - e^{-x}}{e^x + e^{-x}} \, dx$	$\ln \frac{e^2 + 1}{2} - 1$

39	$\int_0^2 \frac{2x}{e^x} dx$	$2 - \frac{6}{e^2}$
40	$\int_1^2 \frac{\ln^2 x}{x} dx$	$\frac{\ln^3 2}{3}$
41	$\int_2^3 \ln x dx$	$\ln \frac{27}{4} - 1$
42	$\int_0^1 \ln(x+1) dx$	$2 \ln 2 - 1$
43	$\int_0^\pi (\sin x - \cos x) dx$	2
44	$\int_0^{2\pi} (3 - 2 \cos x) dx$	6π
45	$\int_0^\pi \cos \frac{x}{2} dx$	2
46	$\int_0^\pi \sin \frac{x}{4} dx$	$4 - 2\sqrt{2}$
47	$\int_0^\pi \sin^2 x \cos x dx$	0
48	$\int_0^{\frac{\pi}{2}} \sin^2 x \cos x dx$	$\frac{1}{3}$

49	$\int_1^2 \frac{\cos \sqrt{x}}{\sqrt{x}} dx$	$2 \sin \sqrt{2} - 2 \sin 1$
50	$\int_{\pi^2}^{4\pi^2} \frac{\cos \sqrt{x}}{\sqrt{x}} dx$	0
51	$\int_0^{\frac{\pi}{4}} \frac{\sin x}{\cos^3 x} dx$	$\frac{1}{2}$
52	$\int_0^{\frac{\pi}{4}} \sin^2 x dx$	$\frac{\pi}{8} - \frac{1}{4}$
53	$\int_{\frac{1}{2}}^1 \frac{\cos \ln x}{x} dx$	$\sin(\ln 2)$
54	$\int_0^1 \arcsin x dx$	$\frac{\pi}{2} - 1$
55	$\int_0^{\frac{\pi}{2}} x \sin 2x dx$	$\frac{\pi}{4}$
56	$\int_0^1 x \arctan x dx$	$\frac{\pi}{4} - \frac{1}{2}$
57	$\int_0^{\frac{\pi}{4}} x \sin x dx$	$\frac{\sqrt{2}}{2} \left(1 - \frac{\pi}{4}\right)$
58	$\int_0^1 \arccos x dx$	1

esercizi più impegnativi

59	$\int_{-1}^1 \frac{1}{e^x + e^{2x}} dx$	$e - \frac{1}{e} - 1$
60	$\int_0^{\frac{\pi}{2}} \frac{1}{2 - \cos x} dx$	$\frac{2\pi}{3\sqrt{3}}$
61	$\int_0^1 x \arctan x dx$	$\frac{\pi}{2} - \frac{1}{2}$
62	$\int_1^9 \frac{x^2 + 1}{x\sqrt{x}} dx$	$\frac{56}{3}$
63	$\int_0^{\frac{1}{2}} \frac{1}{1 - x^2} dx$	$\frac{\ln 3}{2}$
64	$\int_0^1 \sqrt[3]{1 + \sqrt{x}} dx$	$\frac{3\sqrt[3]{2}}{7} + \frac{9}{14}$
65	$\int_0^{\frac{1}{2}} \arcsin x dx$	$\frac{\pi}{12} + \frac{\sqrt{3}}{2} - 1$
66	$\int_{-1}^1 x e^{(x - [x])} dx$	$\frac{1}{4} + \frac{3}{4e^2}$
67	$\int_0^4 \frac{[x^2 - 3x + 2]}{x + 1} dx$	$12 \ln \frac{2}{3} + 6 \ln 5 - 3$
68	$\int_{\frac{\pi}{2}}^{2\pi} x [\sin x] dx$	$4\pi - 1$