

2. Tehnike integriranja, 1. dio - Rješenja

1. $\operatorname{arctg}(2x + 3) + c$
2. $\frac{3}{4} \ln |2x^2 - 3x + 4| + \frac{1}{2\sqrt{23}} \operatorname{arctg} \frac{4x - 3}{\sqrt{23}} + c$
3. $\frac{1}{54} \operatorname{arctg} \frac{x + 1}{3} + \frac{1}{18} \frac{x + 1}{x^2 + 2x + 10} + c$
4. $x + \frac{1}{3} \operatorname{arctg} x - \frac{8}{3} \operatorname{arctg} \frac{1}{2}x + c$
5. $\frac{2}{9} \ln |x - 1| - \frac{2}{9} \ln |x + 2| - \frac{1}{3x - 3} + c$
6. $-\frac{4}{7}x + \frac{1}{49} \ln \left| x - \frac{5}{7} \right| + c$
7. $\frac{1}{2}x^2 - 7x - 28 \ln |x + 3| + 66 \ln |x + 4| + c$
8. $\frac{2}{\sqrt{31}} \operatorname{arctg} \frac{4x - 5}{\sqrt{31}} + c$
9. $\frac{1}{2} \ln (x^2 - x + 1) + \frac{1}{\sqrt{3}} \operatorname{arctg} \frac{2x - 1}{\sqrt{3}} + c$
10. $3 \ln |x| - \ln |x - 1| - \frac{2}{x - 1} + c$
11. $\ln |x| - 2 \ln |x + 1| + \ln |x^2 - x + 1| + \frac{2}{\sqrt{3}} \operatorname{arctg} \frac{2x - 1}{\sqrt{3}} + c$
12. $\frac{1}{2} \operatorname{arctg} x + \frac{x}{2(x^2 + 1)} + c$
13. $\sin x - \frac{2}{3} \sin^3 x + \frac{1}{5} \sin^5 x + c$
14. $\frac{3}{8}x - \frac{1}{4} \sin 2x + \frac{1}{32} \sin 4x + c$
15. $-\frac{1}{3} \operatorname{ctg}^3 x - 3 \operatorname{ctg} x + 3 \operatorname{tg} x + \frac{1}{3} \operatorname{tg}^3 x + c$

16. $\frac{1}{8} \sin 2x + \frac{1}{16} \sin 4x + \frac{1}{24} \sin 6x + \frac{1}{32} \sin 8x + c$
17. $\sin x - \frac{2}{\sin x} - 6 \operatorname{arctg}(\sin x) + c$
18. $\frac{1}{\sqrt{2}} \ln \left| \frac{1 + \sqrt{2} \cos x}{1 - \sqrt{2} \cos x} \right| - \frac{1}{2} \ln \left| \frac{1 + \cos x}{1 - \cos x} \right| + c$
19. $\frac{1}{\sqrt{5}} \operatorname{arctg} \frac{3 \operatorname{tg} \frac{x}{2} + 1}{\sqrt{5}} + c$
20. $\frac{1}{11} \sin^{11} x - \frac{1}{13} \sin^{13} x + c$
21. $-\operatorname{ctg} x + 2 \operatorname{tg} x + \frac{1}{3} \operatorname{tg}^3 x + c$
22. $\frac{1}{4} \cos 2x - \frac{1}{16} \cos 8x + c$
23. $-8 \operatorname{ctg} 2x - \frac{8}{3} \operatorname{ctg}^3 2x + c$
24. $\frac{1}{\sqrt{2}} \operatorname{arctg} \frac{\operatorname{tg} 2x}{\sqrt{2}} + c$
25. $\frac{1}{\sqrt{2}} \ln \left| \frac{\cos 4x + 7 + 4\sqrt{2}}{\cos 4x + 7 - 4\sqrt{2}} \right| + c$
26. $\frac{1}{3} \ln \left| \operatorname{tg} \frac{x}{2} \right| - \ln \left| \operatorname{tg} \frac{x}{2} - 1 \right| + \frac{5}{3} \ln \left| \operatorname{tg} \frac{x}{2} - 3 \right| + c$
27. $\frac{1}{2} \cos x - \frac{3\sqrt{2}}{8} \ln \left| \frac{\sqrt{2} \cos x - 1}{\sqrt{2} \cos x + 1} \right| + c$
28. $\ln |\sin x| - \sin x + c$
29. $\frac{1}{4} \ln |\sin x + \cos x| - \frac{1}{4} \cos x (\sin x + \cos x) + c$
30. $\frac{1}{16} x - \frac{1}{192} \sin 6x - \frac{1}{192} \sin 12x + \frac{1}{576} \sin 18x + c$