

Analiza matematyczna I.2, 2011/2012

Całka nieoznaczona, czyli funkcja pierwotna

Obliczyć całki nieoznaczone

1. $\int x \sin x \, dx$,
2. $\int x 3^x \, dx$,
3. $\int x e^{-x} \, dx$,
4. $\int x \operatorname{arctg} x \, dx$,
5. $\int x \operatorname{tg}^2 x \, dx$,
6. $\int \cos(\ln x) \, dx$,
7. $\int x^2 e^x \sin x \, dx$,
8. $\int \frac{x \arcsin x}{\sqrt{1-x^2}} \, dx$,
9. $\int \ln x \, dx$,
10. $\int \operatorname{arctg} \sqrt{x} \, dx$,
11. $\int x e^{-x^2} \, dx$,
12. $\int e^{\sqrt{x}} \, dx$,
13. $\int \frac{1}{x \ln x} \, dx$,
14. $\int x(2x^2 + 3)^n \, dx$,
15. $\int \frac{x^3}{1+x^8} \, dx$,
16. $\int \frac{x}{\sqrt[4]{2x^2+7}} \, dx$,
17. $\int \sin^3 x \cos x \, dx$,
18. $\int \frac{e^{\frac{1}{x}}}{x^2} \, dx$,
19. $\int \frac{\cos x}{1+4\sin^2 x} \, dx$,
20. $\int \frac{\operatorname{ctg} x}{\ln \sin x} \, dx$,
21. $\int \frac{1}{\sin^2 x + 2 \cos^2 x} \, dx$,
22. $\int \frac{1}{\sqrt{1+e^{2x}}} \, dx$,
23. $\int e^{-5x} \, dx$,
24. $\int \frac{1}{x^2 + 2x + 2} \, dx$,
25. $\int \frac{1}{\sqrt{x^2 - 2x + 5}} \, dx$,
26. $\int \frac{1}{12x - 9x^2 - 2} \, dx$,
27. $\int \frac{3-x}{\sqrt{5-x^2-4x}} \, dx$,
28. $\int (2-x)\sqrt{2x^2+3x-8} \, dx$,
29. $\int (2x-1)\sqrt{6x-x^2} \, dx$,
30. $\int \frac{x}{2x^2-3x-2} \, dx$,
31. $\int \frac{x^5+x^4-8}{x^3-4x} \, dx$,
32. $\int \frac{1}{x^3+x} \, dx$,
33. $\int \frac{x^4+1}{x^3-x^2+x-1} \, dx$,
34. $\int \frac{2x}{x^5+x^4+2x^3+2x^2+x+1} \, dx$,
35. $\int \frac{1}{x\sqrt{2+x-x^2}} \, dx$,
36. $\int \frac{x^2}{\sqrt{1-2x-x^2}} \, dx$,

$$37. \int \sin^3 x \cos^2 x \, dx ,$$

$$39. \int \frac{\sin^4 x}{\cos^2 x} \, dx ,$$

$$41. \int \operatorname{tg}^5 x \, dx ,$$

$$43. \int \frac{1}{5 - 3 \cos x} \, dx ,$$

$$45. \int \frac{1}{\cosh^2 x} \, dx ,$$

$$47. \int \frac{1}{\cos x \sqrt[3]{\sin^2 x}} \, dx ,$$

$$38. \int \frac{1}{\sin x \cos x} \, dx ,$$

$$40. \int \frac{1}{\sin^3 x \cos x} \, dx ,$$

$$42. \int \frac{1}{\operatorname{tg}(x) \cos(2x)} \, dx ,$$

$$44. \int \frac{1}{\sin^3 x} \, dx ,$$

$$46. \int \frac{1}{\sinh x} \, dx ,$$

$$48. \int \frac{2 \sin x - \cos x}{3 \sin^2 x + 4 \cos^2 x} \, dx .$$