

Курсова задача №3а

Като използвате подходящо развитие в степенен ред на подинтегралната функция пресметнете с точност $E = 10^{-4}$ определения интеграл.

1. $\int_0^{\frac{1}{4}} e^{-x^2} dx.$
2. $\int_0^{\frac{1}{2}} \frac{\ln(1-x)}{x} dx.$
3. $\int_0^{\frac{1}{2}} \frac{e^{-x^2} - 1}{\sqrt[3]{x}} dx.$
4. $\int_0^{\frac{1}{4}} \frac{\ln(1+3x)}{x} dx.$
5. $\int_0^{\frac{1}{2}} \frac{e^x - 1}{\sqrt{x}} dx.$
6. $\int_0^1 \frac{dx}{\sqrt[3]{1+x^4}}.$
7. $\int_0^{\frac{1}{2}} \frac{e^x - 1}{x} dx.$
8. $\int_0^{\frac{1}{4}} \sqrt[3]{x} \cos^2 x dx.$
9. $\int_0^{\frac{1}{2}} \frac{\ln(1-x)}{\sqrt{x}} dx.$
10. $\int_0^1 \sqrt[4]{1+x^2}.$
11. $\int_{-1}^0 \frac{e^{2x} - 1}{x} dx.$
12. $\int_0^{\frac{1}{2}} \frac{\ln(1+x^2)}{x} dx.$
13. $\int_0^{\frac{1}{3}} \frac{\operatorname{arctg}(4x^2)}{x} dx.$
14. $\int_0^1 \sqrt[3]{x} e^{-x^2} dx.$
15. $\int_0^{\frac{1}{6}} e^{-2x^2} dx.$
16. $\int_0^{\frac{1}{4}} \frac{\ln(1-2x)}{x} dx.$
17. $\int_0^{\frac{1}{4}} \frac{e^{-2x^2} - 1}{\sqrt[4]{x}} dx.$
18. $\int_0^{\frac{1}{3}} \frac{\ln(1-8x)}{x} dx.$
19. $\int_0^{\frac{1}{4}} \frac{e^{2x} - 1}{\sqrt[3]{x}} dx.$
20. $\int_0^1 \frac{dx}{\sqrt[4]{1+x^2}}.$
21. $\int_0^{\frac{1}{3}} \frac{e^{2x} - 1 - 2x}{x^2} dx.$
22. $\int_0^{\frac{1}{2}} \sqrt[4]{x} \sin^2 x dx.$
23. $\int_0^{\frac{1}{3}} \frac{\ln(1-x)}{\sqrt[4]{x}} dx.$
24. $\int_0^1 x \sqrt[3]{1+x^2}.$
25. $\int_{-1}^0 \frac{e^{3x} - 1 - 3x}{x^2} dx.$
26. $\int_0^{\frac{1}{3}} \frac{\ln(1+x^3)}{x} dx.$
27. $\int_0^{\frac{1}{4}} \frac{\operatorname{arctg}(3x^2)}{\sqrt{x}} dx.$
28. $\int_0^{\frac{1}{4}} \sqrt[4]{x} e^{-2x^2} dx.$
29. $\int_0^{\frac{1}{4}} \frac{\ln(1-x^2)}{\sqrt{x}} dx.$
30. $\int_0^{\frac{1}{4}} (e^{2x} - 1) \sqrt[3]{x} dx.$
31. $\int_0^{\frac{1}{5}} \frac{\operatorname{arctg}(3x^2)}{x} dx.$
32. $\int_0^1 \sqrt[4]{x} e^{-x^2} dx.$
33. $\int_0^{\frac{1}{8}} e^{-3x^2} dx.$
34. $\int_0^{\frac{1}{5}} \frac{\ln(1-3x)}{x} dx.$
35. $\int_0^{\frac{1}{6}} \frac{e^{-4x^2} - 1}{\sqrt[4]{x}} dx.$
36. $\int_0^{\frac{1}{9}} \frac{\ln(1-8x)}{x} dx.$
37. $\int_0^{\frac{1}{14}} \frac{\ln(1-2x)}{x} dx.$
38. $\int_0^{\frac{1}{42}} \frac{e^{-2x^2} - 1}{\sqrt[4]{x}} dx.$
39. $\int_0^{\frac{1}{32}} \frac{\ln(1-8x)}{x} dx.$
40. $\int_0^{\frac{1}{64}} \frac{e^{2x} - 1}{\sqrt[3]{x}} dx.$
41. $\int_0^1 \frac{dx}{\sqrt[4]{1+x^3}}.$
42. $\int_0^{\frac{1}{32}} \frac{e^{2x} - 1 - 2x}{x^2} dx.$
43. $\int_0^{\frac{1}{16}} \sqrt[4]{x} \sin^2 x dx.$