ИК „Допълнение към курса по ДИС за компютърни специалности“
2024-2025 учебна година

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. $\int_0^{\frac{1}{4}} e^{-x^2}\,dx.$

38. $\int_0^{\frac{1}{2}} \frac{\ln(1-x)}{x}\,dx.$

39. $\int_0^{\frac{1}{2}} \frac{e^{-x^2}-1}{\sqrt[3]{x}}\,dx.$

40. $\int_0^{\frac{1}{4}} \frac{\ln(1+3x)}{x}\,dx.$

41. $\int_0^{\frac{1}{2}} \frac{e^{x}-1}{\sqrt{x}}\,dx.$

42. $\int_0^{1} \frac{dx}{\sqrt[3]{1+x^4}}.$

43. $\int_0^{\frac{1}{2}} \frac{e^{x}-1}{x}\,dx.$

44. $\int_0^{\frac{1}{4}} \sqrt[3]{x}\cos^2 x\,dx.$

45. $\int_0^{\frac{1}{2}} \frac{\ln(1-x)}{\sqrt{x}}\,dx.$

46. $\int_0^{1} \sqrt[4]{1+x^2}\,dx.$

47. $\int_{-1}^{0} \frac{e^{2x}-1}{x}\,dx.$

48. $\int_0^{\frac{1}{2}} \frac{\ln(1+x^2)}{x}\,dx.$

49. $\int_0^{\frac{1}{3}} \frac{\operatorname{arctg}(4x^2)}{x}\,dx.$

50. $\int_0^{1} \sqrt[3]{x}\,e^{-x^2}\,dx.$

51. $\int_0^{\frac{1}{6}} e^{-2x^2}\,dx.$

52. $\int_0^{\frac{1}{4}} \frac{\ln(1-2x)}{x}\,dx.$

53. $\int_0^{\frac{1}{4}} \frac{e^{-2x^2}-1}{\sqrt[4]{x}}\,dx.$

54. $\int_0^{\frac{1}{3}} \frac{\ln(1-8x)}{x}\,dx.$

55. $\int_0^{\frac{1}{4}} \frac{e^{2x}-1}{\sqrt[3]{x}}\,dx.$

56. $\int_0^{1} \frac{dx}{\sqrt[4]{1+x^2}}.$