

1. Aniqmas integral va uni topishning sodda usullari
Tayanch tushuncha: Boshlang'ich funksiya va aniqmas integral. Asosiy integrallar jadvali. Aniqmas integralda o'zgaruvchini almashtirish usuli.
2. Hosilaning tatbiqlari
Tayanch tushuncha: Funksiyaning doimiylik sharti. Funksiyaning nuqtada va to'plamdagi monotonlik sharti.
3. Aniq integralning ta'rifi, uning mavjudlik shartlari
Tayanch tushuncha: Aniq integral tushunchasiga olib keladigan masalalar. Integral yig'indi, aniq integral ta'rifi. Darbu yig'indilari va ularning xossalari.
4. Funksiyaning qavariqligi, burilish nuqtasi. Asimptotalar.
Tayanch tushuncha: Funksiyaning qavariqligi, burilish nuqtasi. Hosilaning funksiya grafigini yasashga tatbiqi
5. Teylor formulasi.
Tayanch tushuncha: Ba'zi-bir elementar funksiyalar uchun Teylor formulasi
6. Nyuton-Leybnis formulasi. O'zgaruvchini almashtirish va bo'laklab integrallash usullari
Tayanch tushuncha: Nyuton – Leybnis formulasi. O'zgaruvchini almashtirish va bo'laklab integrallash usullari.
7. Ratsional, sodda irratsional va transsendent funksiyalarni integrallash
Tayanch tushuncha: Sodda ratsional kasrlar va ularni integrallash. To'g'ri ratsional kasrlarni integrallash. Kasr ratsional funksiyalarni integrallash. Sodda irratsional ifodalarni integrallash
8. Chegaralanmagan funksiyaning xosmas integrali
Tayanch tushuncha: Chegaralanmagan funksiyaning xosmas integrali. Chegaralanmagan funksiya xosmas integralining xossalari. Chegaralanmagan funksiyaning xosmas integralini hisoblash.
9. Aniq integralning geometrik kattaliklarni hisoblashga tatbiqi
Tayanch tushuncha: Yuzani hisoblash formulalari. Qutb koordinatalar sistemasida figuraning yuzini hisoblash. Fazoviy jism xajmini hisoblash. Egri chiziq yoyi uzunligini hisoblash.
10. Maksimum va minimumlar. Ekstremumning zaruriy sharti. Ekstremumning yetarli shartlari.
Tayanch tushuncha: Maksimum va minimumlar. Ekstremumning zaruriy sharti. Ekstremumning yetarli shartlari.
11. Ratsional, sodda irratsional va transsendent funksiyalarni integrallash
Tayanch tushuncha: Sodda ratsional kasrlar va ularni integrallash. To'g'ri ratsional kasrlarni integrallash. Kasr ratsional funksiyalarni integrallash. Sodda irratsional ifodalarni integrallash
12. Teylor formulasi.
Tayanch tushuncha: Ba'zi-bir elementar funksiyalar uchun Teylor formulasi
13. Chegaralanmagan funksiyaning xosmas integrali
Tayanch tushuncha: Chegaralanmagan funksiyaning xosmas integrali. Chegaralanmagan funksiya xosmas integralining xossalari. Chegaralanmagan funksiyaning xosmas integralini hisoblash.
14. Aniqmas integral va uni topishning sodda usullari
15. *Tayanch tushuncha: Boshlang'ich funksiya va aniqmas integral. Asosiy integrallar jadvali. Aniqmas integralda o'zgaruvchini almashtirish usuli.*
16. Hosilaning tatbiqlari
Tayanch tushuncha: Funksiyaning doimiylik sharti. Funksiyaning nuqtada va to'plamdagi monotonlik sharti.
17. Ratsional, sodda irratsional va transsendent funksiyalarni integrallash

Tayanch tushuncha: Sodda ratsional kasrlar va ularni integrallash. To'g'ri ratsional kasrlarni integrallash. Kasr ratsional funksiyalarni integrallash. Sodda irratsional ifodalarni integrallash

18. Nyuton-Leybnis formulasi. O'zgaruvchini almashtirish va bo'laklab integrallash usullari
Tayanch tushuncha: Nyuton – Leybnis formulasi. O'zgaruvchini almashtirish va bo'laklab integrallash usullari.

19. Teylor formulasi.

Tayanch tushuncha: Ba'zi-bir elementar funksiyalar uchun Teylor formulasi

20. Sonli qatorlar

Tayanch tushuncha: Qator yaqinlashuvchiligi, Musbat hadli qatorlar

20. Aniqmas integralni hisoblang. $\int \frac{dx}{1+\sqrt{x}}$

21. Aniq integralni hisoblang $\int_0^2 |1-x| dx$

22. Aniqmas integralni hisoblang. $\int \sqrt{1-x^2} dx$

23. Aniq integralni hisoblang $\int_0^1 \frac{x^2}{1+x^6} dx$

24. Aniqmas integralni hisoblang. $\int \frac{dx}{\sqrt{x(1+x)}}$

25. Aniq integralni hisoblang $\int_0^1 x^{15} \sqrt{1+3x^8} dx$

26. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin x}$

27. Aniq integralni hisoblang $\int_1^2 \frac{e^{\frac{1}{x^2}}}{x^3} dx$

28. Aniqmas integralni hisoblang. $\int \frac{xdx}{(x+1)(x^2+1)}$

29. Aniq integralni hisoblang $\int_0^1 \frac{dx}{e^x + e^{-x}}$

30. Aniqmas integralni hisoblang. $\int \frac{xdx}{(x^2-1)^{\frac{3}{2}}}$

31. Aniq integralni hisoblang $\int_{-2}^{-1} \frac{x+1}{x^2(x-1)} dx$

32. Aniqmas integralni hisoblang. $\int x\sqrt{1-x^2} dx$

33. Aniq integralni hisoblang $\int_1^{\sqrt{3}} \arctg \sqrt{x} dx$

34. Aniqmas integralni hisoblang. $\int \frac{\arcsin x}{x^2} dx$

35. Aniq integralni hisoblang $\int_0^{\frac{\pi}{2}} e^{2x} \cos x dx$

36. Aniqmas integralni hisoblang. $\int \frac{x dx}{(x^2 - 1)^{\frac{3}{2}}}$

37. Aniq integralni hisoblang $\int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \frac{x}{\sin^2 x} dx$

38. Aniqmas integralni hisoblang. $\int \arctg x dx$

39. Aniq integralni hisoblang $\int_0^e \sin(\ln x) dx$

40. Aniqmas integralni hisoblang. $\int \left(\frac{x}{x^2 - 3x + 2} \right)^2 dx$

41. Aniq integralni hisoblang $\int_0^1 \sqrt{4 - x^2} dx$

42. Aniqmas integralni hisoblang. $\int \left(\frac{x}{x^2 - 3x + 2} \right)^2 dx$

43. Aniq integralni hisoblang $\int_0^2 e^{x^2} x dx$

44. Aniqmas integralni hisoblang. $\int x \sqrt{1 - x^2} dx$

45. Aniq integralni hisoblang $\int_0^4 \frac{dx}{1 + \sqrt{x}}$

46. Funksiyani to'la tekshiring $y = \frac{1}{5}x^5 - \frac{2}{3}x^3 + 1$

47. Aniqmas integralni hisoblang. $\int x^2 \sin x dx$

48. Aniq integralni hisoblang $\int_{\frac{\pi}{3}}^{\frac{\pi}{2}} \frac{dx}{3 + \cos x}$

49. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin^2 x + 2 \cos^2 x}$

50. Aniq integralni hisoblang $\int_2^3 \frac{dx}{x^2 - 2x - 8}$

51. Aniqmas integralni hisoblang. $\int \frac{\sin x \cdot \cos^3 x}{1 + \cos^2 x} dx$

52. Aniq integralni hisoblang $\int_1^5 \frac{x^2 - 6x + 10}{x - 3} dx$

53. Aniqmas integralni hisoblang. $\int \frac{x dx}{x^2 - 3x + 2}$

54. Aniqmas integralni hisoblang. $\int \frac{dx}{e^{x/2} + e^x}$

55. Aniq integralni hisoblang $\int_0^2 |1-x| dx$

56. Aniqmas integralni hisoblang. $\int \frac{dx}{1+\sqrt{x}}$

57. Aniq integralni hisoblang $\int_0^1 \frac{x^2}{1+x^6} dx$

58. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin^2 x + 2 \cos^2 x}$

59. Aniq integralni hisoblang $\int_0^1 (e^{-x} + 1)^2 dx$

60. Aniqmas integralni hisoblang. $\int \frac{dx}{(1+x)\sqrt{x}} dx$

61. Aniq integralni hisoblang $\int_0^1 x^{15} \sqrt{1+3x^8} dx$

62. Aniqmas integralni hisoblang. $\int \frac{xdx}{x^2-3x+2}$

63. Aniq integralni hisoblang $\int_1^2 \frac{e^{\frac{1}{x^2}}}{x^3} dx$

64. Aniqmas integralni hisoblang. $\int \frac{dx}{\sqrt{x(1+x)}}$

65. Aniq integralni hisoblang $\int_0^1 \frac{dx}{e^x + e^{-x}}$

66. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin x}$

67. Aniq integralni hisoblang $\int_1^{\sqrt{3}} \operatorname{arctg} \sqrt{x} dx$

68. Aniqmas integralni hisoblang. $\int \frac{x^3}{(x-1)^{100}} dx$

69. Aniq integralni hisoblang $\int_1^5 \frac{x^2 - 6x + 10}{x-3} dx$

70. Aniqmas integralni hisoblang. $\int \ln(x + \sqrt{1+x^2}) dx$

71. Aniq integralni hisoblang $\int_1^5 \frac{x^2 - 6x + 10}{x-3} dx$

72. Aniqmas integralni hisoblang. $\int \frac{xdx}{(x+1)(x^2+1)}$

73. Aniq integralni hisoblang $\int_0^2 e^{x^2} x dx$

74. Aniqmas integralni hisoblang. $\int \frac{x dx}{x^2 - 3x + 2}$

75. Aniq integralni hisoblang $\int_{-2}^{-1} \frac{x+1}{x^2(x-1)} dx$

76. Aniqmas integralni hisoblang. $\int \frac{x^3}{(x-1)^{100}} dx$

77. Aniq integralni hisoblang $\int_0^4 \frac{dx}{1+\sqrt{x}}$

78. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin x}$

79. Aniq integralni hisoblang $\int_2^3 \frac{dx}{x^2 - 2x - 8}$

80. Aniqmas integralni hisoblang. $\int \frac{x dx}{x^2 - 3x + 2}$

81. Aniqmas integralni hisoblang. $\int \ln(x + \sqrt{1+x^2}) dx$

82. Aniq integralni hisoblang $\int_0^2 e^{x^2} x dx$

83. Aniq integralni hisoblang $\int_1^5 \frac{x^2 - 6x + 10}{x - 3} dx$

84. Aniq integralni hisoblang $\int_0^2 e^{x^2} x dx$

85. Aniqmas integralni hisoblang. $\int \frac{dx}{\sin^2 x + 2 \cos^2 x}$

86. Aniq integralni hisoblang $\int_0^1 x^{15} \sqrt{1+3x^8} dx$

87. Xosmas integral qiymatini toping : $\int_0^{+\infty} e^{-4x} dx$

88. Xosmas integral qiymatini toping : $\int_{13}^{+\infty} \frac{1}{x \ln x} dx$

89. Xosmas integral qiymatini toping : $\int_{\frac{1}{2}}^{+\infty} \frac{1}{x \sqrt{1+x^2}} dx$

90. Xosmas integral qiymatini toping : $\int_1^{+\infty} \frac{1}{(x+1)\sqrt{x}} dx$

91. Xosmas integral qiymatini toping : $\int_{-\infty}^{+\infty} \frac{1}{x^2 + 6x + 12} dx$

92. Sonli qatorning yaqinlashuvchiligini ko'rsating va yig'indisini toping $\sum_{n=1}^{\infty} \frac{1}{n(n+1)}$

93. Sonli qatorning yaqinlashuvchiligini ko'rsating va yig'indisini toping $\sum_{n=1}^{\infty} \frac{1}{n(n+1)(n+2)}$

94. Sonli qatorning yaqinlashuvchiligini ko'rsating va yig'indisini toping $\sum_{n=1}^{\infty} \frac{1}{n(n+2)(n+3)}$