

Zadania

Obliczyć całki (zad. 15.22 - 15.83):

$$15.22. \int \left(5x^2 - 6x + 3 - \frac{2}{x} + \frac{5}{x^2} \right) dx.$$

$$15.24. \int (x^2 - x + 1)(x^2 + x + 1) dx.$$

$$15.26. \int \frac{x dx}{1+x^2}.$$

$$15.28. \int \frac{x^2 dx}{a^3 + x^3}, a \neq 0.$$

$$15.23. \int \frac{(x^2 - 1)^3}{x} dx.$$

$$15.25. \int (x^2 + 4)^5 x dx.$$

$$15.27. \int \frac{x dx}{(x^2 + 3)^6}.$$

$$15.29. \int \frac{x \sqrt[3]{x} + \sqrt[4]{x}}{x^2} dx.$$

- 15.30. $\int \frac{x\sqrt{x-x^4}\sqrt{x}}{\sqrt[3]{x}} dx.$
- 15.32. $\int \frac{\sqrt{x}-2\sqrt[3]{x^2}+4\sqrt[4]{5x^3}}{6\sqrt[3]{x}} dx.$
- 15.34. $\int \sqrt{3x+1} dx.$
- 15.36. $\int \frac{x dx}{\sqrt[3]{2x^2-1}}.$
- 15.38. $\int \frac{x}{\sqrt{3-5x^2}} dx.$
- 15.40. $\int \frac{x}{\sqrt{x^2-6}} dx.$
- 15.42. $\int \frac{e^{1/x}}{x^2} dx.$
- 15.44. $\int \frac{dx}{2 \cos^2 3x}.$
- 15.46. $\int \sin^5 x \cos x dx.$
- 15.48. $\int \frac{\sin x}{a+b \cos x} dx, b \neq 0.$
- 15.50. $\int \frac{x^3 dx}{\cos^2 x^4}.$
- 15.52. $\int \frac{x^2 dx}{\cos^2(x^3+1)}.$
- 15.54. $\int \frac{dx}{e^x+e^{-x}}.$
- 15.56. $\int x \ln(1+x^2) dx.$
- 15.58. $\int 6^{1-x} dx.$
- 15.60. $\int \frac{\ln |\operatorname{arctg} x| dx}{1+x^2}.$
- 15.31. $\int (3+2\sqrt[4]{x})^3 dx.$
- 15.33. $\int \frac{3+5\sqrt[3]{x^2}}{\sqrt{x^3}} dx.$
- 15.35. $\int \sqrt{a+bx} dx.$
- 15.37. $\int x \sqrt{1+x^2} dx.$
- 15.39. $\int \frac{x-1}{\sqrt[3]{x+1}} dx.$
- 15.41. $\int \frac{x^2 dx}{\sqrt[5]{x^3+1}}.$
- 15.43. $\int x e^{-x^2} dx.$
- 15.45. $\int x \sin(2x^2+1) dx.$
- 15.47. $\int \frac{\cos x}{\sqrt{1+\sin x}} dx.$
- 15.49. $\int \cos x \cdot e^{\sin x} dx.$
- 15.51. $\int \frac{\operatorname{tg} x}{\cos^2 x} dx.$
- 15.53. $\int \frac{(\ln x)^2}{x} dx.$
- 15.55. $\int \frac{e^x dx}{2e^x+1}.$
- 15.57. $\int \frac{\sqrt{2+\ln|x|}}{x} dx.$
- 15.59. $\int \frac{dx}{x \sqrt{1-\ln^2|x|}}.$
- 15.61. $\int x e^{x^2} (x^2+1) dx.$

$$15.62. \int \frac{x^2 dx}{\sqrt{1-x^6}}$$

$$15.64. \int \frac{(\pi - \arcsin x) dx}{\sqrt{1-x^2}}$$

$$15.66. \int x^4(1+x)^3 dx.$$

$$15.68. \int x^3 e^x dx.$$

$$15.70. \int x \cos x dx.$$

$$15.72. \int x^2 \sin 5x dx.$$

$$\bullet 15.74. \int e^{-2x} \sin 3x dx.$$

$$15.76. \int \sqrt{x} \ln x dx.$$

$$15.78. \int \frac{(\ln|x|)^2}{x^5} dx.$$

$$15.80. \int \frac{\ln|x|}{x^4} dx.$$

$$15.82. \int x^3(\ln x)^2 dx.$$

$$15.63. \int \frac{dx}{(1+x^2) \operatorname{arctg} x}$$

$$15.65. \int \frac{x dx}{x^4+1}$$

$$15.67. \int x^2 e^x dx.$$

$$15.69. \int x^4 e^{2x} dx.$$

$$15.71. \int x^2 \cos x dx.$$

$$15.73. \int e^x \cos x dx.$$

$$15.75. \int e^x \cos \frac{2}{3}x dx.$$

$$15.77. \int (\ln|x|)^3 dx.$$

$$15.79. \int \sqrt{x}(\ln|x|)^3 dx.$$

$$15.81. \int \frac{(\ln x)^2}{\sqrt{x}} dx.$$

$$15.83. \int x^n \ln x dx, n \neq -1.$$