

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

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

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

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

$$15.30. \int \frac{x\sqrt{x} - x^4\sqrt{x}}{\sqrt[3]{x}} dx.$$

$$15.32. \int \frac{\sqrt{x} - 2\sqrt[3]{x^2} + 4\sqrt[4]{5x^3}}{6\sqrt[3]{x}} dx.$$

$$15.34. \int \sqrt{3x+1} dx.$$

$$15.36. \int \frac{x dx}{\sqrt[3]{2x^2-1}}.$$

$$15.38. \int \frac{x}{\sqrt{3-5x^2}} dx.$$

$$15.40. \int \frac{x}{\sqrt{x^2-6}} dx.$$

$$15.42. \int \frac{e^{1/x}}{x^2} dx.$$

$$15.44. \int \frac{dx}{2 \cos^2 3x}.$$

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

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

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

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

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

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

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

$$15.31. \int (3+2\sqrt[4]{x})^3 dx.$$

$$15.33. \int \frac{3+5\sqrt[3]{x^2}}{\sqrt{x^3}} dx.$$

$$15.35. \int \sqrt{a+bx} dx.$$

$$15.37. \int x \sqrt{1+x^2} dx.$$

$$15.39. \int \frac{x-1}{\sqrt[3]{x+1}} dx.$$

$$15.41. \int \frac{x^2 dx}{\sqrt[5]{x^3+1}}.$$

$$15.43. \int x e^{-x^2} dx.$$

$$15.45. \int x \sin(2x^2+1) dx.$$

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

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

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

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

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

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

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

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

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

Odpowiedzi (bez stałej C)

$$15.22. I = \frac{5}{3}x^3 - 3x^2 + 3x - 2 \ln |x| - 5x^{-1} \quad (1). \quad 15.23. I = \frac{1}{6}x^6 - \frac{3}{4}x^4 + \frac{3}{2}x^2 - \ln |x|.$$

$$15.24. I = \frac{1}{3}x^5 + \frac{1}{3}x^3 + x.$$

$$15.25. I = \frac{1}{12}(x^2 + 4)^6.$$

$$15.26. I = \frac{1}{2} \ln(1 + x^2).$$

$$15.27. I = \frac{-1}{10(x^2 + 3)^5}.$$

$$15.28. x \neq -a, I = \frac{1}{3} \ln(a^3 + x^3).$$

$$15.29. x > 0, I = 3x^{1/3} - \frac{4}{3}x^{-3/4}$$

$$15.30. x > 0, I = \frac{6}{13}x^{13/6} - \frac{12}{23}x^{23/12}.$$

$$15.31. I = 27x + \frac{216}{5}x^{5/4} + 24x^{3/2} + \frac{32}{7}x^{7/4}.$$

$$15.32. I = \frac{1}{7}x^{7/6} - \frac{1}{4}x^{4/3} + \frac{8}{17} \sqrt[12]{125x^{17}}.$$

$$15.33. I = \frac{-6}{\sqrt{x}} + 30 \sqrt[6]{x}.$$

$$15.34. x \geq -\frac{1}{3}, I = \frac{2}{9}(3x + 1)^{3/2}.$$

$$15.35. I = \frac{2}{3b} \sqrt{(a + bx)^3}; \text{ podstawić } a + bx = t^2.$$

$$15.36. x \neq \frac{1}{2}\sqrt{2}, x \neq -\frac{1}{2}\sqrt{2}, I = \frac{3}{8}(2x^2 - 1)^{2/3}.$$

$$15.37. I = \frac{1}{3} \sqrt{(1 + x^2)^3}.$$

$$15.38. I = -\frac{1}{5} \sqrt{3 - 5x^2}.$$

$$15.39. I = \frac{3}{5}(x - 4) \sqrt[3]{(x + 1)^2}.$$

$$15.40. I = \sqrt{x^2 - 6}.$$

$$15.41. I = \frac{5}{12} \sqrt[5]{(x^3 + 1)^4}.$$

$$15.42. I = -e^{1/x}.$$

$$15.43. I = -\frac{1}{2}e^{-x^2}.$$

$$15.44. I = \frac{1}{6} \operatorname{tg} 3x.$$

$$15.45. I = -\frac{1}{4} \cos(2x^2 + 1).$$

$$15.46. I = \frac{1}{6} \sin^6 x.$$

$$15.66. I = \frac{1}{5}x^5(1+x)^3 - \frac{1}{10}x^6(1+x)^2 + \frac{1}{5}(\frac{1}{7}x^7 + \frac{1}{8}x^8).$$

$$15.67. I = (x^2 - 2x + 2)e^x.$$

$$15.68. I = (x^3 - 3x^2 + 6x - 6)e^x.$$

$$15.69. I = e^{2x}(\frac{1}{2}x^4 - x^3 + \frac{3}{2}x^2 - \frac{3}{2}x + \frac{3}{4}).$$

$$15.70. x \sin x + \cos x.$$

$$15.71. (x^2 - 2) \sin x + 2x \cos x.$$

$$15.72. I = -\frac{1}{5}x^2 \cos 5x + \frac{2}{25}x \sin 5x + \frac{2}{125} \cos 5x.$$

$$15.73. \frac{1}{2}e^x(\sin x + \cos x).$$

$$15.74. I = -\frac{1}{13}e^{-2x}(2 \sin 3x + 3 \cos 3x).$$

$$15.75. I = \frac{9}{13}e^{-x}\left(-\cos \frac{2}{3}x + \frac{2}{3}\sin \frac{2}{3}x\right).$$

$$15.76. I = \frac{2}{3}x^{\frac{2}{3}}\left(\ln x - \frac{2}{3}\right).$$

$$15.77. I = x\left((\ln|x|)^3 - 3(\ln|x|)^2 + 6\ln|x| - 6\right).$$

$$15.78. I = -\frac{1}{32x^4}\left(8(\ln|x|)^2 + 4\ln|x| + 1\right).$$