$x^2 \pm a^2, \quad \sqrt{x^2 \pm a^2}, \quad \sqrt{a^2 \pm x^2}$ $(a > 0)$

66. $\displaystyle\int \frac{\mathrm{d}x}{x^2+a^2} = \frac{1}{a}\operatorname{arctg}\left(\frac{x}{a}\right) + C$

67. $\displaystyle\int \frac{\mathrm{d}x}{x^2-a^2} = \frac{1}{2a}\ln\left|\frac{x-a}{x+a}\right| + C$

68. $\displaystyle\int \frac{\mathrm{d}x}{\sqrt{x^2 \pm a^2}} = \ln|x + \sqrt{x^2 \pm a^2}| + C$

69. $\displaystyle\int \frac{\mathrm{d}x}{\sqrt{a^2-x^2}} = \arcsin\left(\frac{x}{a}\right) + C$

70. $\displaystyle\int \frac{x^2}{\sqrt{x^2 \pm a^2}}\,\mathrm{d}x = \frac{x}{2}\sqrt{x^2 \pm a^2} - \frac{\pm a^2}{2}\ln|x + \sqrt{x^2 \pm a^2}| + C$

71. $\displaystyle\int \frac{x^2}{\sqrt{a^2-x^2}}\,\mathrm{d}x = -\frac{x}{2}\sqrt{a^2-x^2} + \frac{a^2}{2}\arcsin\left(\frac{x}{a}\right) + C$

72. $\displaystyle\int \frac{\mathrm{d}x}{x\sqrt{a^2 \pm x^2}} = \frac{1}{a}\ln\left|\frac{x}{a + \sqrt{a^2 \pm x^2}}\right| + C$

73. $\displaystyle\int \sqrt{x^2 \pm a^2}\,\mathrm{d}x = \frac{x}{2}\sqrt{x^2 \pm a^2} \pm \frac{a^2}{2}\ln|x + \sqrt{x^2 \pm a^2}| + C$

74. $\displaystyle\int \sqrt{a^2-x^2}\,\mathrm{d}x = \frac{x}{2}\sqrt{a^2-x^2} + \frac{a^2}{2}\arcsin\left(\frac{x}{a}\right) + C$

75. $\displaystyle\int x^2\sqrt{x^2 \pm a^2}\,\mathrm{d}x = \frac{x}{8}(2x^2 \pm a^2)\sqrt{x^2 \pm a^2} - \frac{a^4}{8}\ln|x + \sqrt{x^2 \pm a^2}| + C$

76. $\displaystyle\int x^2\sqrt{a^2-x^2}\,\mathrm{d}x = \frac{a^4}{8}\arcsin\left(\frac{x}{a}\right) + \frac{x}{8}(2x^2-a^2)\sqrt{a^2-x^2} + C$

Tabulka integrálů

Mocniny

1. $\displaystyle\int x^n\,\mathrm{d}x = \frac{x^{n+1}}{n+1} + C, \quad n \neq -1$

2. $\displaystyle\int \frac{\mathrm{d}x}{x} = \ln|x| + C$

Exponenciály a logaritmy

3. $\displaystyle\int \mathrm{e}^x\,\mathrm{d}x = \mathrm{e}^x + C$

4. $\displaystyle\int x\,\mathrm{e}^{ax}\,\mathrm{d}x = \frac{x\,\mathrm{e}^{ax}}{a} - \frac{\mathrm{e}^{ax}}{a^2} + C$

5. $\displaystyle\int x^n\,\mathrm{e}^{ax}\,\mathrm{d}x = \frac{x^n\,\mathrm{e}^{ax}}{a} - \frac{n}{a}\int x^{n-1}\,\mathrm{e}^{ax}\,\mathrm{d}x$

6. $\displaystyle\int \frac{\mathrm{e}^{ax}}{x^n}\,\mathrm{d}x = -\frac{\mathrm{e}^{ax}}{(n-1)x^{n-1}} + \frac{a}{n-1}\int \frac{\mathrm{e}^{ax}}{x^{n-1}}\,\mathrm{d}x$

7. $\displaystyle\int \ln x\,\mathrm{d}x = x\ln x - x + C$

8. $\displaystyle\int x^n \ln x\,\mathrm{d}x = x^{n+1}\left[\frac{\ln x}{n+1} - \frac{1}{(n+1)^2}\right] + C$

9. $\displaystyle\int x^m(\ln x)^n\,\mathrm{d}x = \frac{x^{m+1}}{m+1}(\ln x)^n - \frac{n}{m+1}\int x^n(\ln x)^{n-1}\,\mathrm{d}x$

10. $\displaystyle\int \frac{\mathrm{d}x}{x\ln x} = \ln|\ln x| + C$

11. $\displaystyle\int \mathrm{e}^{ax}\ln x\,\mathrm{d}x = \frac{\mathrm{e}^{ax}\ln x}{a} - \frac{1}{a}\int \frac{\mathrm{e}^{ax}}{x}\,\mathrm{d}x$

Sinus a kosinus

12. $\displaystyle\int \sin x\,\mathrm{d}x = -\cos x + C$

13. $\displaystyle\int \cos x\,\mathrm{d}x = \sin x + C$

14. $\displaystyle\int \sin^2 x\,\mathrm{d}x = \frac{x}{2} - \frac{\sin 2x}{4} + C$

15. $\displaystyle\int \cos^2 x\,\mathrm{d}x = \frac{x}{2} + \frac{\sin 2x}{4} + C$

16. $\displaystyle\int \sin^n x\,\mathrm{d}x = -\frac{\sin^{n-1}x\cos x}{n} + \frac{n-1}{n}\int \sin^{n-2}x\,\mathrm{d}x$

17. $\displaystyle\int \cos^n x\,\mathrm{d}x = \frac{\cos^{n-1}x\sin x}{n} + \frac{n-1}{n}\int \cos^{n-2}x\,\mathrm{d}x$

18. $\displaystyle\int x^n \sin x\,\mathrm{d}x = -x^n\cos x + n\int x^{n-1}\cos x\,\mathrm{d}x$

19. $\displaystyle\int x^n \cos x\,\mathrm{d}x = x^n\sin x - n\int x^{n-1}\sin x\,\mathrm{d}x$

20. $\displaystyle\int \sin mx\cos nx\,\mathrm{d}x = -\frac{\cos[(m+n)x]}{2(m+n)} - \frac{\cos[(m-n)x]}{2(m-n)} + C$

21. $\int \sin mx \sin nx \,\mathrm{d}x = -\frac{\sin[(m+n)x]}{2(m+n)} + \frac{\sin[(m-n)x]}{2(m-n)} + C$

22. $\int \cos mx \cos nx \,\mathrm{d}x = \frac{\sin[(m+n)x]}{2(m+n)} + \frac{\sin[(m-n)x]}{2(m-n)} + C$

23. $\int \sin(\ln x) \,\mathrm{d}x = \frac{x}{2}[\sin(\ln x) - \cos(\ln x)] + C$

24. $\int \cos(\ln x) \,\mathrm{d}x = \frac{x}{2}[\sin(\ln x) + \cos(\ln x)] + C$

25. $\int \mathrm{e}^{ax} \sin bx \,\mathrm{d}x = \frac{\mathrm{e}^{ax}}{a^2+b^2}(a \sin bx - b \cos bx) + C$

26. $\int \mathrm{e}^{ax} \cos bx \,\mathrm{d}x = \frac{\mathrm{e}^{ax}}{a^2+b^2}(a \cos bx + b \sin bx) + C$

Tangens a $\frac{1}{\cos x}$

27. $\int \operatorname{tg} x \,\mathrm{d}x = \ln\left|\frac{1}{\cos x}\right| + C$

28. $\int \frac{1}{\cos x} \,\mathrm{d}x = \ln\left|\frac{1}{\cos x} + \operatorname{tg} x\right| + C$

29. $\int \operatorname{tg}^2 x \,\mathrm{d}x = \operatorname{tg} x - x + C$

30. $\int \frac{1}{\cos^2 x} \,\mathrm{d}x = \operatorname{tg} x + C$

31. $\int \operatorname{tg}^n x \,\mathrm{d}x = \frac{\operatorname{tg}^{n-1} x}{n-1} - \int \operatorname{tg}^{n-2} x \,\mathrm{d}x$

32. $\int \frac{1}{\cos^n x} \,\mathrm{d}x = \frac{\frac{1}{\cos^{n-1} x} \sin x}{n-1} + \frac{n-2}{n-1} \int \frac{1}{\cos^{n-2} x} \,\mathrm{d}x$

33. $\int \frac{1}{\cos x} \operatorname{tg} x \,\mathrm{d}x = \frac{1}{\cos x} + C$

Kotangens a $\frac{1}{\sin x}$

34. $\int \operatorname{cotg} x \,\mathrm{d}x = \ln|\sin x| + C$

35. $\int \frac{1}{\sin x} \,\mathrm{d}x = \ln\left|\frac{1}{\sin x} - \operatorname{cotg} x\right| + C$

36. $\int \operatorname{cotg}^2 x \,\mathrm{d}x = -\operatorname{cotg} x - x + C$

37. $\int \frac{1}{\sin^2 x} \,\mathrm{d}x = -\operatorname{cotg} x + C$

38. $\int \operatorname{cotg}^n x \,\mathrm{d}x = -\frac{\operatorname{cotg}^{n-1} x}{n-1} - \int \operatorname{cotg}^{n-2} x \,\mathrm{d}x$

39. $\int \frac{1}{\sin^n x} \,\mathrm{d}x = -\frac{\frac{1}{\sin^{n-1} x} \cos x}{n-1} + \frac{n-2}{n-1} \int \frac{1}{\sin^{n-2} x} \,\mathrm{d}x$

40. $\int \frac{1}{\sin x} \operatorname{cotg} x \,\mathrm{d}x = -\frac{1}{\sin x} + C$

Inverzní trigonometrické funkce

41. $\int \arcsin x \,\mathrm{d}x = x \arcsin x + \sqrt{1-x^2} + C$

42. $\int \arccos x \,\mathrm{d}x = x \arccos x - \sqrt{1-x^2} + C$

43. $\int \operatorname{arctg} x \,\mathrm{d}x = x \operatorname{arctg} x - \frac{1}{2}\ln(1+x^2) + C$

Hyperbolické funkce

44. $\int \sinh x \,\mathrm{d}x = \cosh x + C$

45. $\int \cosh x \,\mathrm{d}x = \sinh x + C$

46. $\int \operatorname{tgh} x \,\mathrm{d}x = \ln(\cosh x) + C$

47. $\int \operatorname{cotgh} x \,\mathrm{d}x = \ln|\sinh x| + C$

48. $\int \frac{1}{\cosh x} \,\mathrm{d}x = \arctan(\sinh x) + C$

49. $\int \frac{1}{\sinh x} \,\mathrm{d}x = \ln\left|\tanh \frac{x}{2}\right| + C$

50. $\int \frac{1}{\cosh^2 x} \,\mathrm{d}x = \tanh x + C$

51. $\int \frac{1}{\sinh^2 x} \,\mathrm{d}x = -\operatorname{cotgh} x + C$

52. $\int \frac{1}{\cosh x} \tanh x \,\mathrm{d}x = -\frac{1}{\cosh x} + C$

53. $\int \frac{1}{\sinh x} \operatorname{cotgh} x \,\mathrm{d}x = -\frac{1}{\sinh x} + C$

54. $\int \sinh^2 x \,\mathrm{d}x = \frac{\sinh 2x}{4} - \frac{x}{2} + C$

55. $\int \cosh^2 x \,\mathrm{d}x = \frac{\sinh 2x}{4} + \frac{x}{2} + C$

56. $\int \operatorname{tgh}^2 x \,\mathrm{d}x = x - \operatorname{tgh} x + C$

57. $\int \operatorname{cotgh}^2 x \,\mathrm{d}x = x - \operatorname{cotgh} x + C$

58. $\int x \sinh x \,\mathrm{d}x = x \cosh x - \sinh x + C$

59. $\int x \cosh x \,\mathrm{d}x = x \sinh x - \cosh x + C$

$a + bx, \quad \sqrt{a + bx}$

60. $\int \frac{x}{a+bx} \,\mathrm{d}x = \frac{1}{b^2}(a + bx - a\ln|a+bx|) + C$

61. $\int \frac{x^2}{a+bx} \,\mathrm{d}x = \frac{1}{b^3}\left[\frac{1}{2}(a+bx)^2 - 2a(a+bx) + a^2 \ln|a+bx|\right] + C$

62. $\int \frac{x}{(a+bx)^2} \,\mathrm{d}x = \frac{1}{b^2}\left(\frac{a}{a+bx} + \ln|a+bx|\right) + C$

63. $\int \frac{x^2}{(a+bx)^2} \,\mathrm{d}x = \frac{1}{b^3}\left(a + bx - \frac{a^2}{a+bx} - 2a\ln|a+bx|\right) + C$

64. $\int x\sqrt{a+bx} \,\mathrm{d}x = \frac{2}{15b^2}(3bx - 2a)(a+bx)^{\frac{3}{2}} + C$

65. $\int \frac{x}{\sqrt{a+bx}} \,\mathrm{d}x = \frac{2}{3b^2}(bx - 2a)\sqrt{a+bx} + C$