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

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

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

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

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

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

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

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

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

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

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

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

Tabulka integrálů

Mocniny

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

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

Exponenciály a logaritmy

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

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

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

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

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

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

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

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

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

Sinus a kosinus

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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