Integráltáblázatok

1. $\int u\,dv = uv - \int v\,du$

2. $\int a^u\,du = \dfrac{a^u}{\ln a} + C,\ a \neq 1,\ a > 0$

3. $\int \cos u\,du = \sin u + C$

4. $\int \sin u\,du = -\cos u + C$

5. $\int (ax+b)^n\,dx = \dfrac{(ax+b)^{n+1}}{a(n+1)} + C,\ n \neq -1$

6. $\int (ax+b)^{-1}\,dx = \dfrac{1}{a}\ln|ax+b| + C$

7. $\int x(ax+b)^n\,dx = \dfrac{(ax+b)^{n+1}}{a^2}\left[\dfrac{ax+b}{n+2} - \dfrac{b}{n+1}\right] + C,\ n \neq -1,\ -2$

8. $\int x(ax+b)^{-1}\,dx = \dfrac{x}{a} - \dfrac{b}{a^2}\ln|ax+b| + C$

9. $\int x(ax+b)^{-2}\,dx = \dfrac{1}{a^2}\left[\ln|ax+b| + \dfrac{b}{ax+b}\right] + C$

10. $\int \dfrac{dx}{x(ax+b)} = \dfrac{1}{b}\ln\left|\dfrac{x}{ax+b}\right| + C$

11. $\int (\sqrt{ax+b})^n\,dx = \dfrac{2}{a}\dfrac{(\sqrt{ax+b})^{n+2}}{n+2} + C,\ n \neq -2$

12. $\int \dfrac{\sqrt{ax+b}}{x}\,dx = 2\sqrt{ax+b} + b\int \dfrac{dx}{x\sqrt{ax+b}}$

13. **(a)** $\int \dfrac{dx}{x\sqrt{ax-b}} = \dfrac{2}{\sqrt{b}}\operatorname{arctg}\sqrt{\dfrac{ax-b}{b}} + C$ **(b)** $\int \dfrac{dx}{x\sqrt{ax+b}} = \dfrac{1}{\sqrt{b}}\ln\left|\dfrac{\sqrt{ax+b}-\sqrt{b}}{\sqrt{ax+b}+\sqrt{b}}\right| + C$

14. $\int \dfrac{\sqrt{ax+b}}{x^2}dx = -\dfrac{\sqrt{ax+b}}{x} + \dfrac{a}{2}\int \dfrac{dx}{x\sqrt{ax+b}} + C$

15. $\int \dfrac{dx}{x^2\sqrt{ax+b}} = -\dfrac{\sqrt{ax+b}}{bx} - \dfrac{a}{2b}\int \dfrac{dx}{x\sqrt{ax+b}} + C$

16. $\int \dfrac{dx}{a^2+x^2} = \dfrac{1}{a}\operatorname{arctg}\dfrac{x}{a} + C$

17. $\int \dfrac{dx}{(a^2+x^2)^2} = \dfrac{x}{2a^2(a^2+x^2)} + \dfrac{1}{2a^3}\operatorname{arctg}\dfrac{x}{a} + C$

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

19. $\int \dfrac{dx}{(a^2-x^2)^2} = \dfrac{x}{2a^2(a^2-x^2)} + \dfrac{1}{4a^3}\ln\left|\dfrac{x+a}{x-a}\right| + C$

20. $\int \dfrac{dx}{\sqrt{a^2+x^2}} = \operatorname{arsh}\dfrac{x}{a} + C = \ln\left(x + \sqrt{a^2+x^2}\right) + C$

21. $\int \sqrt{a^2+x^2}\,dx = \dfrac{x}{2}\sqrt{a^2+x^2} + \dfrac{a^2}{2}\ln\left(x + \sqrt{a^2+x^2}\right) + C$

22. $\int x^2\sqrt{a^2+x^2}\,dx = \dfrac{x}{8}(a^2+2x^2)\sqrt{a^2+x^2} - \dfrac{a^4}{8}\ln\left(x + \sqrt{a^2+x^2}\right) + C$

23. $\displaystyle\int \frac{\sqrt{a^2+x^2}}{x}\,dx = \sqrt{a^2+x^2} - a\ln\left|\frac{a+\sqrt{a^2+x^2}}{x}\right| + C$

24. $\displaystyle\int \frac{\sqrt{a^2+x^2}}{x^2}\,dx = \ln\left(x+\sqrt{a^2+x^2}\right) - \frac{\sqrt{a^2+x^2}}{x} + C$

25. $\displaystyle\int \frac{x^2}{\sqrt{a^2+x^2}}\,dx = -\frac{a^2}{2}\ln\left(x+\sqrt{a^2+x^2}\right) + \frac{x\sqrt{a^2+x^2}}{2} + C$

26. $\displaystyle\int \frac{dx}{x\sqrt{a^2+x^2}} = -\frac{1}{a}\ln\left|\frac{a+\sqrt{a^2+x^2}}{x}\right| + C$

27. $\displaystyle\int \frac{dx}{x^2\sqrt{a^2+x^2}} = -\frac{\sqrt{a^2+x^2}}{a^2x} + C$

28. $\displaystyle\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin\frac{x}{a} + C$

29. $\displaystyle\int \sqrt{a^2-x^2}\,dx = \frac{x}{2}\sqrt{a^2-x^2} + \frac{a^2}{2}\arcsin\frac{x}{a} + C$

30. $\displaystyle\int x^2\sqrt{a^2-x^2}\,dx = \frac{a^4}{8}\arcsin\frac{x}{a} - \frac{1}{8}x\sqrt{a^2-x^2}(a^2-2x^2) + C$

31. $\displaystyle\int \frac{\sqrt{a^2-x^2}}{x}\,dx = \sqrt{a^2-x^2} - a\ln\left|\frac{a+\sqrt{a^2-x^2}}{x}\right| + C$

32. $\displaystyle\int \frac{\sqrt{a^2-x^2}}{x^2}\,dx = -\arcsin\frac{x}{a} - \frac{\sqrt{a^2-x^2}}{x} + C$

33. $\displaystyle\int \frac{x^2}{\sqrt{a^2-x^2}}\,dx = \frac{a^2}{2}\arcsin\frac{x}{a} - \frac{1}{2}x\sqrt{a^2-x^2} + C$

34. $\displaystyle\int \frac{dx}{x\sqrt{a^2-x^2}} = -\frac{1}{a}\ln\left|\frac{a+\sqrt{a^2-x^2}}{x}\right| + C$

35. $\displaystyle\int \frac{dx}{x^2\sqrt{a^2-x^2}} = -\frac{\sqrt{a^2-x^2}}{a^2x} + C$

36. $\displaystyle\int \frac{dx}{\sqrt{x^2-a^2}} = \operatorname{arch}\frac{x}{a} + C = \ln\left|x+\sqrt{x^2-a^2}\right| + C$

37. $\displaystyle\int \sqrt{x^2-a^2}\,dx = \frac{x}{2}\sqrt{x^2-a^2} - \frac{a^2}{2}\ln\left|x+\sqrt{x^2-a^2}\right| + C$

38. $\displaystyle\int \left(\sqrt{x^2-a^2}\right)^n dx = \frac{x\left(\sqrt{x^2-a^2}\right)^n}{n+1} - \frac{na^2}{n+1}\int \left(\sqrt{x^2-a^2}\right)^{n-2} dx,\ n \neq -1$

39. $\displaystyle\int \frac{dx}{\left(\sqrt{x^2-a^2}\right)^n} = \frac{x\left(\sqrt{x^2-a^2}\right)^{2-n}}{(2-n)a^2} - \frac{n-3}{(n-2)a^2}\int \frac{dx}{\left(\sqrt{x^2-a^2}\right)^{n-2}},\ n \neq 2$

40. $\displaystyle\int x\left(\sqrt{x^2-a^2}\right)^n dx = \frac{\left(\sqrt{x^2-a^2}\right)^{n+2}}{n+2} + C,\ n \neq -2$

41. $\displaystyle\int x^2\sqrt{x^2-a^2}\,dx = \frac{x}{8}(2x^2-a^2)\sqrt{x^2-a^2} - \frac{a^4}{8}\ln\left|x+\sqrt{x^2-a^2}\right| + C$

42. $\displaystyle\int \frac{\sqrt{x^2-a^2}}{x}\,dx = \sqrt{x^2-a^2} - a\operatorname{arcsec}\left|\frac{x}{a}\right| + C$

43. $\displaystyle\int \frac{\sqrt{x^2-a^2}}{x^2}\,dx = \ln\left|x+\sqrt{x^2-a^2}\right| - \frac{\sqrt{x^2-a^2}}{x} + C$

44. $\displaystyle\int \frac{x^2}{\sqrt{x^2-a^2}}\,dx = \frac{a^2}{2}\ln\left|x+\sqrt{x^2-a^2}\right| + \frac{x}{2}\sqrt{x^2-a^2} + C$

45. $\displaystyle\int \frac{dx}{x\sqrt{x^2-a^2}} = \frac{1}{a}\operatorname{arcsec}\left|\frac{x}{a}\right| + C = \frac{1}{a}\arccos\left|\frac{a}{x}\right| + C$

46. $\displaystyle\int \frac{dx}{x^2\sqrt{x^2-a^2}} = \frac{\sqrt{x^2-a^2}}{a^2x} + C$

47. $\displaystyle\int \frac{dx}{\sqrt{2ax-x^2}} = \arcsin\left(\frac{x-a}{a}\right) + C$

48. $\int \sqrt{2ax-x^2}\,dx = \frac{x-a}{2}\sqrt{2ax-x^2} + \frac{a^2}{2}\arcsin\left(\frac{x-a}{a}\right) + C$

49. $\int \left(\sqrt{2ax-x^2}\right)^n dx = \frac{(x-a)\left(\sqrt{2ax-x^2}\right)^n}{n+1} + \frac{na^2}{n+1}\int \left(\sqrt{2ax-x^2}\right)^{n-2} dx$

50. $\int \frac{dx}{\left(\sqrt{2ax-x^2}\right)^n} = \frac{(x-a)\left(\sqrt{2ax-x^2}\right)^{2-n}}{(n-2)a^2} + \frac{n-3}{(n-2)a^2}\int \frac{dx}{\left(\sqrt{2ax-x^2}\right)^{n-2}}$

51. $\int x\sqrt{2ax-x^2}\,dx = \frac{(x+a)(2x-3a)\sqrt{2ax-x^2}}{6} + \frac{a^3}{2}\arcsin\left(\frac{x-a}{a}\right) + C$

52. $\int \frac{\sqrt{2ax-x^2}}{x}\,dx = \sqrt{2ax-x^2} + a\arcsin\left(\frac{x-a}{a}\right) + C$

53. $\int \frac{\sqrt{2ax-x^2}}{x^2}\,dx = -2\sqrt{\frac{2a-x}{x}} - \arcsin\left(\frac{x-a}{a}\right) + C$

54. $\int \frac{x\,dx}{\sqrt{2ax-x^2}} = a\arcsin\left(\frac{x-a}{a}\right) - \sqrt{2ax-x^2} + C$

55. $\int \frac{dx}{x\sqrt{2ax-x^2}} = -\frac{1}{a}\sqrt{\frac{2a-x}{x}} + C$

56. $\int \sin ax\,dx = -\frac{1}{a}\cos ax + C$

57. $\int \cos ax\,dx = \frac{1}{a}\sin ax + C$

58. $\int \sin^2 ax\,dx = \frac{x}{2} - \frac{\sin 2ax}{4a} + C$

59. $\int \cos^2 ax\,dx = \frac{x}{2} + \frac{\sin 2ax}{4a} + C$

60. $\int \sin^n ax\,dx = -\frac{\sin^{n-1} ax\cos ax}{na} + \frac{n-1}{n}\int \sin^{n-2} ax\,dx$

61. $\int \cos^n ax\,dx = \frac{\cos^{n-1} ax\sin ax}{na} + \frac{n-1}{n}\int \cos^{n-2} ax\,dx$

62. $\int \sin ax\cos bx\,dx = -\frac{\cos(a+b)x}{2(a+b)} - \frac{\cos(a-b)x}{2(a-b)} + C,\ a^2 \neq b^2$

63. $\int \sin ax\sin bx\,dx = \frac{\sin(a-b)x}{2(a-b)} - \frac{\sin(a+b)x}{2(a+b)} + C,\ a^2 \neq b^2$

64. $\int \cos ax\cos bx\,dx = \frac{\sin(a-b)x}{2(a-b)} + \frac{\sin(a+b)x}{2(a+b)} + C,\ a^2 \neq b^2$

65. $\int \sin ax\cos ax\,dx = -\frac{\cos 2ax}{4a} + C$

66. $\int \sin^n ax\cos ax\,dx = \frac{\sin^{n+1} ax}{(n+1)a} + C,\ n \neq -1$

67. $\int \frac{\cos ax}{\sin ax}\,dx = \frac{1}{a}\ln|\sin ax| + C$

68. $\int \cos^n ax\sin ax\,dx = -\frac{\cos^{n+1} ax}{(n+1)a} + C,\ n \neq -1$

69. $\int \frac{\sin ax}{\cos ax}\,dx = -\frac{1}{a}\ln|\cos ax| + C$

70. $\int \sin^n ax\cos^m ax\,dx = -\frac{\sin^{n-1} ax\cos^{m+1} ax}{a(m+n)} + \frac{n-1}{m+n}\int \sin^{n-2} ax\cos^m ax\,dx,\ n \neq -m$ (visszavezethető $\sin^n ax$-re)

71. $\int \sin^n ax\cos^m ax\,dx = -\frac{\sin^{n+1} ax\cos^{m-1} ax}{a(m+n)} + \frac{m-1}{m+n}\int \sin^n ax\cos^{m-2} ax\,dx,\ m \neq -n$ (visszavezethető $\cos^m ax$-re)

72. $\int \frac{dx}{b+c\sin ax} = \frac{-2}{a\sqrt{b^2-c^2}}\operatorname{arctg}\left[\sqrt{\frac{b-c}{b+c}}\operatorname{tg}\left(\frac{\pi}{4} - \frac{ax}{2}\right)\right] + C, \quad b^2 > c^2$

73. $\int \frac{dx}{b+c\sin ax} = \frac{-1}{a\sqrt{c^2-b^2}}\ln\left|\frac{c+b\sin ax+\sqrt{c^2-b^2}\cos ax}{b+c\sin ax}\right| + C,\ b^2 < c^2$

74. $\int \frac{dx}{1+\sin ax} = -\frac{1}{a}\operatorname{tg}\left(\frac{\pi}{4}-\frac{ax}{2}\right)+C$

75. $\int \frac{dx}{1-\sin ax} = \frac{1}{a}\operatorname{tg}\left(\frac{\pi}{4}+\frac{ax}{2}\right)+C$

76. $\int \frac{dx}{b+c\cos ax} = \frac{2}{a\sqrt{b^2-c^2}}\operatorname{arctg}\left[\sqrt{\frac{b-c}{b+c}}\operatorname{tg}\frac{ax}{2}\right]+C,\ b^2>c^2$

77. $\int \frac{dx}{b+c\cos ax} = \frac{1}{a\sqrt{c^2-b^2}}\ln\left|\frac{c+b\cos ax+\sqrt{c^2-b^2}\sin ax}{b+c\cos ax}\right|+C,\ b^2<c^2$

78. $\int \frac{dx}{1+\cos ax} = \frac{1}{a}\operatorname{tg}\frac{ax}{2}+C$

79. $\int \frac{dx}{1-\cos ax} = -\frac{1}{a}\operatorname{ctg}\frac{ax}{2}+C$

80. $\int x\sin ax\,dx = \frac{1}{a^2}\sin ax-\frac{x}{a}\cos ax+C$

81. $\int x\cos ax\,dx = \frac{1}{a^2}\cos ax+\frac{x}{a}\sin ax+C$

82. $\int x^n\sin ax\,dx = -\frac{x^n}{a}\cos ax+\frac{n}{a}\int x^{n-1}\cos ax\,dx$

83. $\int x^n\cos ax\,dx = \frac{x^n}{a}\sin ax-\frac{n}{a}\int x^{n-1}\sin ax\,dx$

84. $\int \operatorname{tg} ax\,dx = \frac{1}{a}\ln|\sec ax|+C$

85. $\int \operatorname{ctg} ax\,dx = \frac{1}{a}\ln|\sin ax|+C$

86. $\int \operatorname{tg}^2 ax\,dx = \frac{1}{a}\operatorname{tg} ax-x+C$

87. $\int \operatorname{ctg}^2 ax\,dx = -\frac{1}{a}\operatorname{ctg} ax-x+C$

88. $\int \operatorname{tg}^n ax\,dx = \frac{\operatorname{tg}^{n-1} ax}{a(n-1)}-\int \operatorname{tg}^{n-2} ax\,dx,\ n\neq 1$

89. $\int \operatorname{ctg}^n ax\,dx = -\frac{\operatorname{ctg}^{n-1} ax}{a(n-1)}-\int \operatorname{ctg}^{n-2} ax\,dx,\ n\neq 1$

90. $\int \sec ax\,dx = \frac{1}{a}\ln|\sec ax+\operatorname{tg} ax|+C$

91. $\int \csc ax\,dx = -\frac{1}{a}\ln|\csc ax+\operatorname{ctg} ax|+C$

92. $\int \sec^2 ax\,dx = \frac{1}{a}\operatorname{tg} ax+C$

93. $\int \csc^2 ax\,dx = -\frac{1}{a}\operatorname{ctg} ax+C$

94. $\int \sec^n ax\,dx = \frac{\sec^{n-2} ax\operatorname{tg} ax}{a(n-1)}+\frac{n-2}{n-1}\int \sec^{n-2} ax\,dx,\ n\neq 1$

95. $\int \csc^n ax\,dx = -\frac{\csc^{n-2}\operatorname{ctg} ax}{a(n-1)}+\frac{n-2}{n-1}\int \csc^{n-2} ax\,dx,\ n\neq 1$

96. $\int \sec^n ax\operatorname{tg} ax\,dx = \frac{\sec^n ax}{na}+C,\ n\neq 0$

97. $\int \csc^n ax\operatorname{ctg} ax\,dx = -\frac{\csc^n ax}{na}+C,\ n\neq 0$

98. $\int \arcsin ax\,dx = x\arcsin ax+\frac{1}{a}\sqrt{1-a^2x^2}+C$

99. $\int \arccos ax\,dx = x\arccos ax-\frac{1}{a}\sqrt{1-a^2x^2}+C$

100. $\int \operatorname{arctg} ax\,dx = x\operatorname{arctg} ax-\frac{1}{2a}\ln(1+a^2x^2)+C$

101. $\int x^n\arcsin ax\,dx = \frac{x^{n+1}}{n+1}\arcsin ax-\frac{a}{n+1}\int \frac{x^{n+1}dx}{\sqrt{1-a^2x^2}},\ n\neq -1$

102. $\int x^n \arccos ax\, dx = \frac{x^{n+1}}{n+1}\arccos ax + \frac{a}{n+1}\int \frac{x^{n+1}dx}{\sqrt{1-a^2x^2}},\ n \neq -1$

103. $\int x^n \operatorname{arctg} ax\, dx = \frac{x^{n+1}}{n+1}\operatorname{arctg} ax - \frac{a}{n+1}\int \frac{x^{n+1}dx}{1+a^2x^2},\ n \neq -1$

104. $\int e^{ax}dx = \frac{1}{a}e^{ax} + C$

105. $\int b^{ax}dx = \frac{1}{a}\frac{b^{ax}}{\ln b} + C,\ b > 0,\ b \neq 1$

106. $\int xe^{ax}dx = \frac{e^{ax}}{a^2}(ax-1) + C$

107. $\int x^n e^{ax}dx = \frac{1}{a}x^n e^{ax} - \frac{n}{a}\int x^{n-1}e^{ax}dx$

108. $\int x^n b^{ax}dx = \frac{x^n b^{ax}}{a\ln b} - \frac{n}{a\ln b}\int x^{n-1}b^{ax}dx,\ b > 0,\ b \neq 1$

109. $\int e^{ax}\sin bx\, dx = \frac{e^{ax}}{a^2+b^2}(a\sin bx - b\cos bx) + C$

110. $\int e^{ax}\cos bx\, dx = \frac{e^{ax}}{a^2+b^2}(a\cos bx + b\sin bx) + C$

111. $\int \ln ax\, dx = x\ln ax - x + C$

112. $\int x^n(\ln ax)^m dx = \frac{x^{n+1}(\ln ax)^m}{n+1} - \frac{m}{n+1}\int x^n(\ln ax)^{m-1}dx,\ n \neq -1$

113. $\int x^{-1}(\ln ax)^m dx = \frac{(\ln ax)^{m+1}}{m+1} + C,\ m \neq -1$

114. $\int \frac{dx}{x\ln ax} = \ln|\ln ax| + C$

115. $\int \operatorname{sh} ax\, dx = \frac{1}{a}\operatorname{ch} ax + C$

116. $\int \operatorname{ch} ax\, dx = \frac{1}{a}\operatorname{sh} ax + C$

117. $\int \operatorname{sh}^2 ax\, dx = \frac{\operatorname{sh} 2ax}{4a} - \frac{x}{2} + C$

118. $\int \operatorname{ch}^2 ax\, dx = \frac{\operatorname{sh} 2ax}{4a} + \frac{x}{2} + C$

119. $\int \operatorname{sh}^n ax\, dx = \frac{\operatorname{sh}^{n-1} ax \operatorname{ch} ax}{na} - \frac{n-1}{n}\int \operatorname{sh}^{n-2} ax\, dx,\ n \neq 0$

120. $\int \operatorname{ch}^n ax\, dx = \frac{\operatorname{ch}^{n-1} ax \operatorname{sh} ax}{na} + \frac{n-1}{n}\int \operatorname{ch}^{n-2} ax\, dx,\ n \neq 0$

121. $\int x\operatorname{sh} ax\, dx = \frac{x}{a}\operatorname{ch} ax - \frac{1}{a^2}\operatorname{sh} ax + C$

122. $\int x\operatorname{ch} ax\, dx = \frac{x}{a}\operatorname{sh} ax - \frac{1}{a^2}\operatorname{ch} ax + C$

123. $\int x^n \operatorname{sh} ax\, dx = \frac{x^n}{a}\operatorname{ch} ax - \frac{n}{a}\int x^{n-1}\operatorname{ch} ax\, dx$

124. $\int x^n \operatorname{ch} ax\, dx = \frac{x^n}{a}\operatorname{sh} ax - \frac{n}{a}\int x^{n-1}\operatorname{sh} ax\, dx$

125. $\int \operatorname{th} ax\, dx = \frac{1}{a}\ln(\operatorname{ch} ax) + C$

126. $\int \operatorname{cth} ax\, dx = \frac{1}{a}\ln|\operatorname{sh} ax| + C$

127. $\int \operatorname{th}^2 ax\, dx = x - \frac{1}{a}\operatorname{th} ax + C$

128. $\int \operatorname{cth}^2 ax\, dx = x - \frac{1}{a}\operatorname{cth} ax + C$

129. $\int \operatorname{th}^n ax\, dx = -\frac{\operatorname{th}^{n-1} ax}{(n-1)a} + \int \operatorname{th}^{n-2} ax\, dx,\ n \neq 1$

130. $\int \operatorname{cth}^n ax\, dx = -\frac{\operatorname{cth}^{n-1} ax}{(n-1)a} + \int \operatorname{cth}^{n-2} ax\, dx,\ n \neq 1$

131. $\int \operatorname{sech} ax\, dx = \frac{1}{a}\arcsin(\operatorname{th} ax) + C$

132. $\int \operatorname{csch} ax\, dx = \frac{1}{a}\ln\left|\operatorname{th}\frac{ax}{2}\right| + C$

133. $\int \operatorname{sech}^2 ax\, dx = \frac{1}{a}\operatorname{th} ax + C$

134. $\int \operatorname{csch}^2 ax\, dx = -\frac{1}{a}\operatorname{cth} ax + C$

135. $\int \operatorname{sech}^n ax\, dx = \frac{\operatorname{sech}^{n-2} ax \operatorname{th} ax}{(n-1)a} + \frac{n-2}{n-1}\int \operatorname{sech}^{n-2} ax\, dx,\ n \neq 1$

136. $\int \operatorname{csch}^n ax\, dx = -\frac{\operatorname{csch}^{n-2} ax \operatorname{cth} ax}{(n-1)a} - \frac{n-2}{n-1}\int \operatorname{csch}^{n-2} ax\, dx,\ n \neq 1$

137. $\int \operatorname{sech}^n ax \operatorname{th} ax\, dx = -\frac{\operatorname{sech}^n ax}{na} + C,\ n \neq 0$

138. $\int \operatorname{csch}^n ax \operatorname{cth} ax\, dx = -\frac{\operatorname{csch}^n ax}{na} + C,\ n \neq 0$

139. $\int e^{ax} \operatorname{sh} bx\, dx = \frac{e^{ax}}{2}\left[\frac{e^{bx}}{a+b} - \frac{e^{-bx}}{a-b}\right] + C,\ a^2 \neq b^2$

140. $\int e^{ax} \operatorname{ch} bx\, dx = \frac{e^{ax}}{2}\left[\frac{e^{bx}}{a+b} + \frac{e^{-bx}}{a-b}\right] + C,\ a^2 \neq b^2$

141. $\int_0^\infty x^{n-1} e^{-x} dx = \Gamma(n) = (n-1)!,\ n > 0$

142. $\int_0^\infty e^{-ax^2} dx = \frac{1}{2}\sqrt{\frac{\pi}{a}},\ a > 0$

143. $\int_0^{\pi/2} \sin^n x\, dx = \int_0^{\pi/2} \cos^n x\, dx = \begin{cases} \dfrac{1\cdot 3\cdot 5\cdots(n-1)}{2\cdot 4\cdot 6\cdots n}\cdot\dfrac{\pi}{2}, & \text{ha } n \geq 2 \text{ páros egész szám} \\ \dfrac{2\cdot 4\cdot 6\cdots(n-1)}{3\cdot 5\cdot 7\cdots n}, & \text{ha } n \geq 3 \text{ páratlan egész szám} \end{cases}$