Tabela de Integrais

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

2 $\int u^n du = \frac{1}{n+1}u^{n+i} + C$

3 $\int \frac{du}{u} = \ln|u| + C$

4 $\int e^u du = e^u + C$

5 $\int a^u du = \frac{1}{\ln(a)}a^u + C$

6 $\int \operatorname{sen}(u)\,du = -\cos(u) + C$

7 $\int \cos(u)\,du = \operatorname{sen}(u) + C$

8 $\int \sec^2(u)\,du = \operatorname{tg}(u) + C$

9 $\int \operatorname{cossec}^2(u)\,du = -\cot g(u) + C$

10 $\int \sec(u)\ \operatorname{tg}(u)\,du = \sec(u) + C$

11 $\int \frac{\cot g(u)}{\operatorname{sen}(u)}du = -\frac{1}{\operatorname{sen}(u)} + C$

12 $\int \operatorname{tg}(u)\,du = \ln|\sec(u)| + C$

13 $\int \cot g(u)\,du = \ln|\operatorname{sen}(u)| + C$

14 $\int \sec(u)\,du = \ln|\sec(u) + \operatorname{tg}(u)| + C$

15 $\int \frac{du}{\operatorname{sen}(u)} = \ln\left|\frac{1}{\operatorname{sen}(u)} - \frac{\cos(u)}{\operatorname{sen}(u)}\right| + C$

16 $\int \frac{du}{\sqrt{a^2-u^2}} = \operatorname{arc\,sen}(\frac{u}{a}) + C$

17 $\int \frac{du}{a^2+u^2} = \frac{1}{a}\operatorname{arc\,tg}(\frac{u}{a}) + C$

18 $\int \frac{du}{u\sqrt{u^2-a^2}} = \frac{1}{a}\operatorname{arc\,sec}(\frac{u}{a}) + C$

19 $\int \frac{du}{a^2-u^2} = \frac{1}{2a}\ln\left|\frac{u+a}{u-a}\right| + C$

20 $\int \frac{du}{u^2-a^2} = \frac{1}{2a}\ln\left|\frac{u-a}{u+a}\right| + C$

21 $\int \sqrt{a^2+u^2}du = \frac{u}{2}\sqrt{a^2+u^2} + \frac{a^2}{2}\ln\left(u+\sqrt{a^2+u^2}\right) + C$

22 $\int u^2\sqrt{a^2+u^2}du = \frac{(a^2u+2u^3)\sqrt{a^2+u^2}}{8} - \frac{a^4}{8}\ln\left(u+\sqrt{a^2+u^2}\right) + C$

23 $\int \frac{\sqrt{a^2+u^2}}{u}du = \sqrt{a^2+u^2} - a\ln\left|\frac{a+\sqrt{a^2+u^2}}{u}\right| + C$

24 $\int \frac{\sqrt{a^2+u^2}}{u^2}du = -\frac{\sqrt{a^2+u^2}}{u} + \ln\left(u+\sqrt{a^2+u^2}\right) + C$

25 $\int \frac{du}{\sqrt{a^2+u^2}} = \ln\left(u+\sqrt{a^2+u^2}\right) + C$

26 $\int \frac{u^2\,du}{\sqrt{a^2+u^2}} = \frac{u}{2}\sqrt{a^2+u^2} - \frac{a^2}{2}\ln(u+\sqrt{a^2+u^2}) + C$

27 $\int \frac{du}{u\sqrt{a^2+u^2}} = -\frac{1}{a}\ln\left|\frac{\sqrt{a^2+u^2}+a}{u}\right| + C$

28 $\int \frac{du}{u^2\sqrt{a^2+u^2}} = -\frac{\sqrt{a^2+u^2}}{a^2u} + C$

29 $\int \frac{du}{(a^2+u^2)^{3/2}} = \frac{u}{a^2\sqrt{a^2+u^2}} + C$

30 $\int \sqrt{a^2-u^2}du = \frac{u}{2}\sqrt{a^2-u^2} + \frac{a^2}{2}\operatorname{arc\,sen}(\frac{u}{a}) + C$

31 $\int u^2\sqrt{a^2-u^2}du = \frac{u}{8}(2u^2-a^2)\sqrt{a^2-u^2} + \frac{a^4}{8}\operatorname{arc\,sen}(\frac{u}{a}) + C$

32 $\int \frac{\sqrt{a^2-u^2}}{u}du = \sqrt{a^2-u^2} - a\ln\left|\frac{a+\sqrt{a^2-u^2}}{u}\right| + C$

33 $\int \frac{\sqrt{a^2-u^2}}{u^2}du = -\frac{1}{u}\sqrt{a^2-u^2} - \operatorname{arc\,sen}(\frac{u}{a}) + C$

34 $\int \frac{u^2du}{\sqrt{a^2-u^2}} = -\frac{u}{2}\sqrt{a^2-u^2} + \frac{a^2}{2}\operatorname{arc\,sen}(\frac{u}{a}) + C$

35 $\int \frac{du}{u\sqrt{a^2-u^2}} = -\frac{1}{a}\ln\left|\frac{\sqrt{a^2-u^2}+a}{u}\right| + C$

36 $\int \frac{du}{u^2\sqrt{a^2-u^2}} = -\frac{\sqrt{a^2-u^2}}{a^2u} + C$

37 $\int (a^2+u^2)^{3/2}du = -\frac{(2u^3-5a^2u)\sqrt{a^2-u^2}}{8} + \frac{3a^4}{8}\operatorname{arc\,sen}(\frac{u}{a}) + C$

38 $\int \frac{du}{(a^2-u^2)^{3/2}} = \frac{u}{a^2\sqrt{a^2-u^2}} + C$

39 $\int \sqrt{u^2-a^2}\,du = \frac{u}{2}\sqrt{u^2-a^2} - \frac{a^2}{2}\ln\left|u+\sqrt{u^2-a^2}\right| + C$

40 $\int u^2\sqrt{u^2-a^2}du = -\frac{(2u^3-a^2u)\sqrt{u^2-a^2}}{8} - \frac{a^4}{8}\ln\left|u+\sqrt{u^2-a^2}\right| + C$

41 $\int \frac{\sqrt{u^2-a^2}}{u}du = \sqrt{u^2-a^2} - a\arccos(\frac{a}{|u|}) + C$

42 $\int \frac{\sqrt{u^2-a^2}}{u^2}du = -\frac{\sqrt{u^2-a^2}}{u} + \ln\left|u+\sqrt{u^2-a^2}\right| + C$

43 $\int \frac{du}{\sqrt{u^2-a^2}} = \ln\left|u+\sqrt{u^2-a^2}\right| + C$

44 $\int \frac{u^2du}{\sqrt{u^2-a^2}} = \frac{u}{2}\sqrt{u^2-a^2} + \frac{a^2}{2}\ln\left|u+\sqrt{u^2-a^2}\right| + C$

45 $\int \frac{du}{u^2\sqrt{u^2-a^2}} = \frac{\sqrt{u^2-a^2}}{a^2u} + C$

46 $\int \frac{du}{(u^2-a^2)^{3/2}} = -\frac{u}{a^2\sqrt{u^2-a^2}} + C$

47 $\int \frac{udu}{a+bu} = \frac{1}{b^2}(a+bu-a\ln|a+bu|) + C$

48 $\int \frac{u^2du}{a+bu} = \frac{\left[(a+bu)^2-4a(a+bu)+2a^2\ln|a+bu|\right]}{2b^3} + C$

49 $\int \frac{du}{u(a+bu)} = \frac{1}{a}\ln\left|\frac{u}{a+bu}\right| + C$

50 $\int \frac{du}{u^2(a+bu)} = -\frac{1}{au} + \frac{b}{a^2}\ln\left|\frac{a+bu}{u}\right| + C$

51 $\int \frac{udu}{(a+bu)^2} = \frac{a}{b^2(a+bu)} + \frac{1}{b^2}\ln|a+bu| + C$

52 $\int \frac{du}{u(a+bu)^2} = \frac{1}{a(a+bu)} - \frac{1}{a^2}\ln\left|\frac{a+bu}{u}\right| + C$

53 $\int \frac{u^2du}{(a+bu)^2} = \frac{1}{b^3}\left(a+bu-\frac{a^2}{a+bu}-2a\ln|a+bu|\right) + C$

54 $\int u\sqrt{a+bu}\,du = \frac{2}{15b^2}(3bu-2a)(a+bu)^{3/2} + C$

55 $\int \frac{udu}{\sqrt{a+bu}} = \frac{2}{3b^2}(bu-2a)\sqrt{a+bu} + C$

56 $\int \frac{u^2du}{\sqrt{a+bu}} = \frac{2}{15b^3}(8a^2+3b^2u^2-4abu)\sqrt{a+bu} + C$

57 $\int \frac{du}{u\sqrt{a+bu}}du = \frac{1}{\sqrt{a}}\ln\left|\frac{\sqrt{a+bu}-\sqrt{a}}{\sqrt{a+bu}+\sqrt{a}}\right| + c$, se $a > 0$

58 $\int \frac{\sqrt{a+bu}}{u}du = 2\sqrt{a+bu} + a\int\frac{du}{u\sqrt{a+bu}}$

59 $\int \frac{\sqrt{a+bu}}{u^2}du = -\frac{\sqrt{a+bu}}{u} + \frac{b}{2}\int\frac{du}{u\sqrt{a+bu}}$

60 $\int u^n\sqrt{a+bu}\,du = \frac{2\left[u^n(a+bu)^{3/2} - na\int u^{n-1}\sqrt{a+bu}\,du\right]}{b(2n+3)}$

61 $\int \frac{u^n du}{\sqrt{a+du}} = \frac{2u^n\sqrt{a+bu}}{b(2n-1)} - \frac{2na}{b(2n+1)}\int\frac{u^{n-1}du}{\sqrt{a+bu}}$

62 $\int \frac{u^{-n}du}{\sqrt{a+bu}} = -\frac{\sqrt{a+bu}}{a(n-1)u^{n-1}} - \frac{b(2n-3)}{2a(n-1)}\int\frac{u^{-n+1}du}{\sqrt{a+bu}}$

63 $\int \operatorname{sen}^2(u)du = \frac{1}{2}u - \frac{1}{4}\operatorname{sen}(2u) + C$

64 $\int \cos^2(u)du = \frac{1}{2}u + \frac{1}{4}\operatorname{sen}(2u) + C$

65 $\int \operatorname{tg}^2(u)du = \operatorname{tg}(u) - u + C$

66 $\int \cot g^2(u)du = -\cot g(u) - u + C$

67 $\int \operatorname{sen}^3(u)du = -\frac{[2+\operatorname{sen}^2(u)]\cos(u)}{3} + C$

68 $\int \cos^3 u\,du = \frac{[2+\cos^2(u)]\operatorname{sen}(u)}{3} + C$

69 $\int \operatorname{tg}^3(u)du = \frac{\operatorname{tg}^2(u)}{2} + \ln|\cos(u)| + C$

70 $\int \cot g^3(u)du = -\frac{\cot g^2(u)}{2} - \ln|\operatorname{sen}(u)| + C$

71 $\int \sec^3(u)du = -\frac{\sec(u)\operatorname{tg}(u)}{2} - \frac{\ln|\operatorname{sen}(u)+\operatorname{tg}(u)|}{2} + C$

72 $\int \frac{du}{\operatorname{sen}^3(u)} = -\frac{\cot g(u)}{2\operatorname{sen}(u)} + \frac{\ln|\operatorname{cossec}(u)-\cot g(u)|}{2} + C$

73 $\int \operatorname{sen}^n(u)du = -\frac{\operatorname{sen}^{n-1}(u)\cos(u)}{n} + \frac{n-1}{n}\int\operatorname{sen}^{n-2}(u)du$

74 $\int \cos^n(u)du = \frac{\cos^{n-1}(u)\operatorname{sen}(u)}{n} + \frac{n-1}{n}\int\cos^{n-2}(u)du$

75 $\int \operatorname{tg}^n(u)du = \frac{\operatorname{tg}^{n-1}(u)}{n-1} - \int\operatorname{tg}^{n-2}(u)du$

76 $\int \cot g^n(u)\,du = -\frac{\cot g^{n-1}(u)}{n-1} - \int\cot g^{n-2}(u)\,du$

77 $\int \sec^n(u)\,du = \frac{\operatorname{tg}(u)\sec^{n-2}(u)}{n-1} + \frac{n-2}{n-1}\int\sec^{n-2}(u)\,du$

78 $\int \frac{du}{\operatorname{sen}^n(u)} = -\frac{\cot g(u)}{(n-1)\operatorname{sen}^{n-2}(u)} + \frac{n-2}{n-1}\int\frac{du}{\operatorname{sen}^{n-2}(u)}$

79 $\int \operatorname{sen}(au)\operatorname{sen}(bu)du = \frac{\operatorname{sen}(a-b)u}{2(a-b)} - \frac{\operatorname{sen}(a+b)u}{2(a+b)} + C$

80 $\int \cos(au)\cos(bu)du = \frac{\operatorname{sen}(a-b)u}{2(a-b)} + \frac{\operatorname{sen}(a+b)u}{2(a+b)} + C$