

Tabela de Integrais

$1 \int u dv = uv - \int v du$	$21 \int \sqrt{a^2 + u^2} du = \frac{u}{2}\sqrt{a^2 + u^2} + \frac{a^2}{2} \ln(u + \sqrt{a^2 + u^2}) + C$	$41 \int \frac{\sqrt{u^2 - a^2}}{u} du = \sqrt{u^2 - a^2} - a \arccos(\frac{a}{ u }) + C$	$61 \int \frac{u^n du}{\sqrt{a + bu}} = \frac{2u^n \sqrt{a + bu}}{b(2n-1)} - \frac{2na}{b(2n+1)} \int \frac{u^{n-1} du}{\sqrt{a + bu}}$
$2 \int u^n du = \frac{1}{n+1} u^{n+1} + C$	$22 \int u^2 \sqrt{a^2 + u^2} du = \frac{(a^2 u + 2u^3) \sqrt{a^2 + u^2}}{8} - \frac{a^4}{8} \ln(u + \sqrt{a^2 + u^2}) + C$	$42 \int \frac{\sqrt{u^2 - a^2}}{u^2} du = -\frac{\sqrt{u^2 - a^2}}{u} + \ln u + \sqrt{u^2 - a^2} + C$	$62 \int \frac{u^{-n} du}{\sqrt{a + bu}} = -\frac{\sqrt{a + bu}}{a(n-1)u^{n-1}} - \frac{b(2n-3)}{2a(n-1)} \int \frac{u^{-n+1} du}{\sqrt{a + bu}}$
$3 \int \frac{du}{u} = \ln u + C$	$23 \int \frac{\sqrt{a^2 + u^2}}{u} du = \sqrt{a^2 + u^2} - a \ln\left \frac{a + \sqrt{a^2 + u^2}}{u}\right + C$	$43 \int \frac{du}{\sqrt{u^2 - a^2}} = \ln u + \sqrt{u^2 - a^2} + C$	$63 \int \sin^2(u) du = \frac{1}{2}u - \frac{1}{4} \sin(2u) + C$
$4 \int e^u du = e^u + C$	$24 \int \frac{\sqrt{a^2 + u^2}}{u^2} du = -\frac{\sqrt{a^2 + u^2}}{u} + \ln(u + \sqrt{a^2 + u^2}) + C$	$44 \int \frac{u^2 du}{\sqrt{u^2 - a^2}} = \frac{u}{2}\sqrt{u^2 - a^2} + \frac{a^2}{2} \ln u + \sqrt{u^2 - a^2} + C$	$64 \int \cos^2(u) du = \frac{1}{2}u + \frac{1}{4} \sin(2u) + C$
$5 \int a^u du = \frac{1}{\ln(a)} a^u + C$	$25 \int \frac{du}{\sqrt{a^2 + u^2}} = \ln(u + \sqrt{a^2 + u^2}) + C$	$45 \int \frac{du}{u^2 \sqrt{u^2 - a^2}} = \frac{\sqrt{u^2 - a^2}}{a^2 u} + C$	$65 \int \tan^2(u) du = \tan(u) - u + C$
$6 \int \sin(u) du = -\cos(u) + C$	$26 \int \frac{u^2 du}{\sqrt{a^2 + u^2}} = \frac{u}{2}\sqrt{a^2 + u^2} - \frac{a^2}{2} \ln(u + \sqrt{a^2 + u^2}) + C$	$46 \int \frac{du}{(u^2 - a^2)^{3/2}} = -\frac{u}{a^2 \sqrt{u^2 - a^2}} + C$	$66 \int \cot g^2(u) du = -\cot g(u) - u + C$
$7 \int \cos(u) du = \sin(u) + C$	$27 \int \frac{du}{u \sqrt{a^2 + u^2}} = -\frac{1}{a} \ln\left \frac{\sqrt{a^2 + u^2} + a}{u}\right + C$	$47 \int \frac{udu}{a+bu} = \frac{1}{b^2}(a + bu - a \ln a + bu) + C$	$67 \int \sin^3(u) du = -\frac{[2 + \sin^2(u)] \cos(u)}{3} + C$
$8 \int \sec^2(u) du = \tan(u) + C$	$28 \int \frac{du}{u^2 \sqrt{a^2 + u^2}} = -\frac{\sqrt{a^2 + u^2}}{a^2 u} + C$	$48 \int \frac{u^2 du}{a+bu} = \frac{[(a+bu)^2 - 4a(a+bu) + 2a^2 \ln a+bu]}{2b^3} + C$	$68 \int \cos^3 u du = \frac{[2 + \cos^2(u)] \sin(u)}{3} + C$
$9 \int \csc^2(u) du = -\cot g(u) + C$	$29 \int \frac{du}{(a^2 + u^2)^{3/2}} = \frac{u}{a^2 \sqrt{a^2 + u^2}} + C$	$49 \int \frac{du}{u(a+bu)} = \frac{1}{a} \ln\left \frac{u}{a+bu}\right + C$	$69 \int \tan^3(u) du = \frac{\tan^2(u)}{2} + \ln \cos(u) + C$
$10 \int \sec(u) \tan(u) du = \sec(u) + C$	$30 \int \sqrt{a^2 - u^2} du = \frac{u}{2}\sqrt{a^2 - u^2} + \frac{a^2}{2} \arcsen(\frac{u}{a}) + C$	$50 \int \frac{du}{u^2(a+bu)} = -\frac{1}{au} + \frac{b}{a^2} \ln\left \frac{a+bu}{u}\right + C$	$70 \int \cot g^3(u) du = -\frac{\cot g^2(u)}{2} - \ln \sin(u) + C$
$11 \int \frac{\cot g(u)}{\sin(u)} du = -\frac{1}{\sin(u)} + C$	$31 \int u^2 \sqrt{a^2 - u^2} du = \frac{u}{8}(2u^2 - a^2)\sqrt{a^2 - u^2} + \frac{a^4}{8} \arcsen(\frac{u}{a}) + C$	$51 \int \frac{udu}{(a+bu)^2} = \frac{a}{b^2(a+bu)} + \frac{1}{b^2} \ln a+bu + C$	$71 \int \sec^3(u) du = -\frac{\sec(u) \tan(u)}{2} - \frac{\ln \sin(u) + \tan(u) }{2} + C$
$12 \int \tan(u) du = \ln \sec(u) + C$	$32 \int \frac{\sqrt{a^2 - u^2}}{u} du = \sqrt{a^2 - u^2} - a \ln\left \frac{a + \sqrt{a^2 - u^2}}{u}\right + C$	$52 \int \frac{du}{u(a+bu)^2} = \frac{1}{a(a+bu)} - \frac{1}{a^2} \ln\left \frac{a+bu}{u}\right + C$	$72 \int \frac{du}{\sin^3(u)} = -\frac{\cot g(u)}{2 \sin(u)} + \frac{\ln \cos(u) - \cot g(u) }{2} + C$
$13 \int \cot g(u) du = \ln \sin(u) + C$	$33 \int \frac{\sqrt{a^2 - u^2}}{u^2} du = -\frac{1}{u} \sqrt{a^2 - u^2} - \arcsen(\frac{u}{a}) + C$	$53 \int \frac{u^2 du}{(a+bu)^2} = \frac{1}{b^3} \left(a + bu - \frac{a^2}{a+bu} - 2a \ln a+bu \right) + C$	$73 \int \sin^n(u) du = -\frac{\sin^{n-1}(u) \cos(u)}{n} + \frac{n-1}{n} \int \sin^{n-2}(u) du$
$14 \int \sec(u) du = \ln \sec(u) + \tan(u) + C$	$34 \int \frac{u^2 du}{\sqrt{a^2 - u^2}} = -\frac{u}{2} \sqrt{a^2 - u^2} + \frac{a^2}{2} \arcsen(\frac{u}{a}) + C$	$54 \int u \sqrt{a+bu} du = \frac{2}{15b^2} (3bu - 2a)(a+bu)^{3/2} + C$	$74 \int \cos^n(u) du = \frac{\cos^{n-1}(u) \sin(u)}{n} + \frac{n-1}{n} \int \cos^{n-2}(u) du$
$15 \int \frac{du}{\sin(u)} = \ln\left \frac{1}{\sin(u)} - \frac{\cos(u)}{\sin(u)}\right + C$	$35 \int \frac{du}{u \sqrt{a^2 - u^2}} = -\frac{1}{a} \ln\left \frac{\sqrt{a^2 - u^2} + a}{u}\right + C$	$55 \int \frac{udu}{\sqrt{a+bu}} = \frac{2}{3b^2} (bu - 2a) \sqrt{a+bu} + C$	$75 \int \tan^n(u) du = \frac{\tan^{n-1}(u)}{n-1} - \int \tan^{n-2}(u) du$
$16 \int \frac{du}{\sqrt{a^2 - u^2}} = \arcsen(\frac{u}{a}) + C$	$36 \int \frac{du}{u^2 \sqrt{a^2 - u^2}} = -\frac{\sqrt{a^2 - u^2}}{a^2 u} + C$	$56 \int \frac{u^2 du}{\sqrt{a+bu}} = \frac{2}{15b^3} (8a^2 + 3b^2 u^2 - 4abu) \sqrt{a+bu} + C$	$76 \int \cot g^n(u) du = -\frac{\cot g^{n-1}(u)}{n-1} - \int \cot g^{n-2}(u) du$
$17 \int \frac{du}{a^2 + u^2} = \frac{1}{a} \arctg(\frac{u}{a}) + C$	$37 \int (a^2 + u^2)^{3/2} du = -\frac{(2u^3 - 5a^2 u) \sqrt{a^2 - u^2}}{8} + \frac{3a^4}{8} \arcsen(\frac{u}{a}) + C$	$57 \int \frac{du}{u \sqrt{a+bu}} = \frac{1}{\sqrt{a}} \ln\left \frac{\sqrt{a+bu} - \sqrt{a}}{\sqrt{a+bu} + \sqrt{a}}\right + c, \text{ se } a > 0$	$77 \int \sec^n(u) du = \frac{\tan(u) \sec^{n-2}(u)}{n-1} + \frac{n-2}{n-1} \int \sec^{n-2}(u) du$
$18 \int \frac{du}{u \sqrt{u^2 - a^2}} = \frac{1}{a} \arccsc(\frac{u}{a}) + C$	$38 \int \frac{du}{(a^2 - u^2)^{3/2}} = \frac{u}{a^2 \sqrt{a^2 - u^2}} + C$	$58 \int \frac{\sqrt{a+bu}}{u} du = 2\sqrt{a+bu} + a \int \frac{du}{u \sqrt{a+bu}}$	$78 \int \frac{du}{\sin^n(u)} = -\frac{\cot g(u)}{(n-1) \sin^{n-2}(u)} + \frac{n-2}{n-1} \int \frac{du}{\sin^{n-2}(u)}$
$19 \int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln\left \frac{u+a}{u-a}\right + C$	$39 \int \sqrt{u^2 - a^2} du = \frac{u}{2} \sqrt{u^2 - a^2} - \frac{a^2}{2} \ln u + \sqrt{u^2 - a^2} + C$	$59 \int \frac{\sqrt{a+bu}}{u^2} du = -\frac{\sqrt{a+bu}}{u} + \frac{b}{2} \int \frac{du}{u \sqrt{a+bu}}$	$79 \int \sin(au) \sin(bu) du = \frac{\sin(a-b)u}{2(a-b)} - \frac{\sin(a+b)u}{2(a+b)} + C$
$20 \int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln\left \frac{u-a}{u+a}\right + C$	$40 \int u^2 \sqrt{u^2 - a^2} du = -\frac{(2u^3 - a^2 u) \sqrt{u^2 - a^2}}{8} - \frac{a^4}{8} \ln u + \sqrt{u^2 - a^2} + C$	$60 \int u^n \sqrt{a+bu} du = \frac{2[u^n(a+bu)^{3/2} - na \int u^{n-1} \sqrt{a+bu} du]}{b(2n+3)}$	$80 \int \cos(au) \cos(bu) du = \frac{\sin(a-b)u}{2(a-b)} + \frac{\sin(a+b)u}{2(a+b)} + C$