

Tabla de Integrales

1. $\int x^n dx = \frac{x^{n+1}}{n+1} + C \Rightarrow \int u'(x) [u(x)]^n dx = \frac{[u(x)]^{n+1}}{n+1} + C$
2. $\int \frac{1}{x} dx = \ln |x| + C \Rightarrow \int \frac{u'(x)}{u(x)} dx = \ln |u(x)| + C$
3. $\int e^x dx = e^x + C \Rightarrow \int u'(x) e^{u(x)} dx = e^{u(x)} + C$
4. $\int a^x dx = \frac{a^x}{\ln a} + C \Rightarrow \int u'(x) a^{u(x)} dx = \frac{a^{u(x)}}{\ln a} + C, a > 0$
5. $\int \cos x dx = \text{sen } x + C \Rightarrow \int u'(x) \cos u(x) dx = \text{sen } u(x) + C$
6. $\int \text{sen } x dx = -\cos x + C \Rightarrow \int u'(x) \text{sen } u(x) dx = -\cos u(x) + C$
7. $\int \frac{1}{\cos^2 x} dx = \tan x + C \Rightarrow \int \frac{u'(x)}{\cos^2 u(x)} dx = \tan u(x) + C$
8. $\int \frac{1}{\text{sen}^2 x} dx = -\cot x + C \Rightarrow \int \frac{u'(x)}{\text{sen}^2 u(x)} dx = -\cot u(x) + C$
9. $\int \frac{\text{sen } x}{\cos^2 x} dx = \sec x + C \Rightarrow \int \frac{u'(x) \text{sen } u(x)}{\cos^2 u(x)} dx = \sec u(x) + C$
10. $\int \frac{\cos x}{\text{sen}^2 x} dx = -\csc x + C \Rightarrow \int \frac{u'(x) \cos u(x)}{\text{sen}^2 u(x)} dx = -\csc u(x) + C$
11. $\int \cosh x dx = \text{senh } x + C \Rightarrow \int u'(x) \cosh u(x) dx = \text{senh } u(x) + C$
12. $\int \text{senh } x dx = \cosh x + C \Rightarrow \int u'(x) \text{senh } u(x) dx = \cosh u(x) + C$
13. $\int \frac{1}{\cosh^2 x} dx = \tanh x + C \Rightarrow \int \frac{u'(x)}{\cosh^2 u(x)} dx = \tanh u(x) + C$
14. $\int \frac{1}{\text{senh}^2 x} dx = \coth x + C \Rightarrow \int \frac{u'(x)}{\text{senh}^2 u(x)} dx = \coth u(x) + C$
15. $\int \frac{\text{senh } x}{\cosh^2 x} dx = -\text{sech } x + C \Rightarrow \int \frac{u'(x) \text{senh } u(x)}{\cosh^2 u(x)} dx = -\text{sech } u(x) + C$
16. $\int \frac{\cosh x}{\text{senh}^2 x} dx = -\text{csch } x + C \Rightarrow \int \frac{u'(x) \cosh u(x)}{\text{senh}^2 u(x)} dx = -\text{csch } u(x) + C$
17. $\int \frac{1}{\sqrt{1-x^2}} dx = \arcsen x + C \Rightarrow \int \frac{u'(x)}{\sqrt{1-[u(x)]^2}} dx = \arcsen u(x) + C$

18. $\int \frac{-1}{\sqrt{1-x^2}} dx = \arccos x + C \Rightarrow \int \frac{-u'(x)}{\sqrt{1-[u(x)]^2}} dx = \arccos u(x) + C$
19. $\int \frac{1}{1+x^2} dx = \arctan x + C \Rightarrow \int \frac{u'(x)}{1+[u(x)]^2} dx = \arctan u(x) + C$
20. $\int \frac{-1}{1+x^2} dx = \operatorname{arccot} x + C \Rightarrow \int \frac{-u'(x)}{1+[u(x)]^2} dx = \operatorname{arccot} u(x) + C$
21. $\int \frac{1}{x\sqrt{x^2-1}} dx = \operatorname{arcsec} x + C \Rightarrow \int \frac{u'(x)}{u(x)\sqrt{[u(x)]^2-1}} dx = \operatorname{arcsec} u(x) + C$
22. $\int \frac{-1}{x\sqrt{x^2-1}} dx = \operatorname{arccsc} x + C \Rightarrow \int \frac{-u'(x)}{u(x)\sqrt{[u(x)]^2-1}} dx = \operatorname{arccsc} u(x) + C$
23. $\int \frac{1}{\sqrt{x^2+1}} dx = \ln |x + \sqrt{x^2+1}| + C = \arg \sinh x + C \Rightarrow$
 $\int \frac{u'(x)}{\sqrt{[u(x)]^2+1}} dx = \ln |u(x) + \sqrt{[u(x)]^2+1}| + C = \arg \sinh u(x) + C$
24. $\int \frac{\pm 1}{\sqrt{x^2-1}} dx = \ln |x \pm \sqrt{x^2-1}| + C = \arg \cosh x + C \Rightarrow$
 $\int \frac{\pm u'(x)}{\sqrt{[u(x)]^2-1}} dx = \ln |u(x) \pm \sqrt{[u(x)]^2-1}| + C = \arg \cosh u(x) + C$
25. $\int \frac{1}{1-x^2} dx = \frac{1}{2} \ln \left| \frac{1+x}{1-x} \right| + C \Rightarrow \int \frac{u'(x)}{1-[u(x)]^2} dx = \frac{1}{2} \ln \left| \frac{1+u(x)}{1-u(x)} \right| + C =$
 $= \arg \tanh u(x) + C$
26. $\int \frac{1}{x\sqrt{1-x^2}} dx = \ln \left| \frac{1 \pm \sqrt{1-x^2}}{x} \right| + C = \arg \operatorname{sech} x + C \Rightarrow$
 $\int \frac{u'(x)}{u(x)\sqrt{1-[u(x)]^2}} dx = \ln \left| \frac{1 \pm \sqrt{1-[u(x)]^2}}{u(x)} \right| + C = \arg \operatorname{sech} u(x) + C$
27. $\int \frac{1}{x\sqrt{1+x^2}} dx = \ln \left| \frac{1 \pm \sqrt{1+x^2}}{x} \right| + C = \arg \operatorname{csch} x + C \Rightarrow$
 $\int \frac{u'(x)}{u(x)\sqrt{1+[u(x)]^2}} dx = \ln \left| \frac{1 \pm \sqrt{1+[u(x)]^2}}{u(x)} \right| + C = \arg \operatorname{csch} u(x) + C$