Cálculo Diferencial e Integral I

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Tabela das Principais Integrais

1. $\int du = u + c.$
2. $\int u^n du = \frac{u^{n+1}}{n+1} + c, \ n \neq -1.$
3. $\int \frac{du}{u} = \ln |u| + c.$
4. $\int a^u du = \frac{a^u}{\ln a} + c, \ a > 0, \ a \neq 1.$
5. $\int e^u du = e^u + c.$
6. $\int \text{sen } u \ du = -\cos \ u + c.$
7. $\int \cos \ u \ du = \text{sen } u + c.$
8. $\int \text{tg } u \ du = \ln |\sec \ u| + c.$
9. $\int \text{cotg } u \ du = \ln |\text{sen } u| + c.$
10. $\int \sec \ u \ du = \ln |\sec \ u + \text{tg } u| + c.$
11. $\int \text{cosec } u \ du = \ln |\text{cosec } u - \text{cotg } u| + c.$
12. $\int \sec \ u \ \text{tg } u \ du = \sec \ u + c.$
13. $\int \text{cosec } u \ \text{cotg } u \ du = -\text{cosec } u + c.$
14. $\int \sec^2 u \ du = \text{tg } u + c.$
15. $\int \text{cosec}^2 u \ du = -\text{cotg } u + c.$
16. $\int \frac{du}{u^2+a^2} = \frac{1}{a} arc \ \text{tg} \frac{u}{a} + c.$
17. $\int \frac{du}{u^2-a^2} = \frac{1}{2a} \ln \left| \frac{u-a}{u+a} \right| + c, \ u^2 > a^2.$
18. $\int \frac{du}{\sqrt{u^2+a^2}} = \ln \left| u + \sqrt{u^2+a^2} \right| + c.$
19. $\int \frac{du}{\sqrt{u^2-a^2}} = \ln \left| u + \sqrt{u^2-a^2} \right| + c.$
20. $\int \frac{du}{\sqrt{a^2-u^2}} = arc \ \text{sen} \frac{u}{a} + c, \ u^2 < a^2.$
21. $\int \frac{du}{u\sqrt{u^2-a^2}} = \frac{1}{a} arc \ \sec \left| \frac{u}{a} \right| + c.$