Formulário das Integrais Imediatas

1. $\int dx = x + C$

2. $\int \frac{d}{dx}\left[F(x) \right] dx = F(x) + C$

3. $\int \left[f(x) \pm g(x) \right] dx = \int f(x)\, dx \pm \int g(x)\, dx$

4. $\int a\, f(x)\, dx = a \cdot \int f(x)\, dx$

5. $\int x^n dx = \frac{x^{n+1}}{n+1} + C$, *para* $n \neq -1$

6. $\int u^n du = \frac{u^{n+1}}{n+1} + C$, *para* $n \neq -1$

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

8. $\int a^u du = \frac{a^u}{\ln a} + C$

9. $\int e^u du = e^u + C$

10. $\int senu\, du = -\cos u + C$

11. $\int \cos u\, du = senu + C$

12. $\int tg\, u\, du = -\ln|\cos u| + C = \ln|\sec u| + C$

13. $\int \cot u\, du = \ln|senu| + C$

14. $\int \sec u\, du = \ln|\sec u + tg\, u| + C$

15. $\int \cos\sec u\, du = \ln|\cos\sec u - \cot u| + C$

16. $\int \sec^2 u\, du = tg\, u + C$

17. $\int \cos\sec^2 u\, du = -\cot u + C$

18. $\int \sec u\, tg\, u\, du = \sec u + C$

19. $\int \cos\sec u \cot gu\, du = -\cos\sec u + C$

20. $\int \frac{du}{\sqrt{a^2 - u^2}} = \operatorname{arc}sen\left(\frac{u}{a}\right) + C$

21. $\int \frac{du}{a^2 + u^2} = \frac{1}{a} arc\, tg\left(\frac{u}{a}\right) + C$

22. $\int \frac{du}{u\sqrt{u^2 - a^2}} = \frac{1}{a} arc\sec\left(\frac{u}{a}\right) + C$

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

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

25. $\int \frac{du}{\sqrt{u^2 \pm a^2}} = \ln\left|u + \sqrt{u^2 \pm a^2}\right| + C$

26. $\int \sqrt{u^2 \pm a^2}\, du = \frac{u}{2}\sqrt{u^2 \pm a^2} \pm \frac{1}{2} a^2 \ln\left|u + \sqrt{u^2 \pm a^2}\right| + C$

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

28. $\int tg^2 u\, du = tgu - u + C$

29. $\int cotg^2 u\, du = -\cot u - u + C$

30. $\int sen^2 u\, du = \frac{u}{2} - \frac{sen2u}{4} + C$

31. $\int \cos^2 u\, du = \frac{u}{2} + \frac{sen2u}{4} + C$

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