Tabla de Integrales

MATHSPACE

1. $\int dx = x + C$

2. $\int x^n dx = \frac{x^{n+1}}{n+1} + C \; ; n \neq -1$

3. $\int \frac{1}{x} dx = Ln|x| + C$

4. $\int e^x \, dx = e^x + C$

5. $\int a^x \, dx = \frac{a^x}{Lna} + C$

6. $\int \frac{1}{\sqrt{x}} dx = 2\sqrt{x} + C$

7. $\int sen(x) \, dx = -cos(x) + C$

8. $\int cos(x) \, dx = sen(x) + C$

9. $\int tan(x) \, dx = -Ln|cos(x)| + C = Ln|sec(x)| + C$

10. $\int cot(x) \, dx = Ln|sen(x)| + C$

11. $\int sec(x) \, dx = Ln|sec(x) + tan(x)| + C$

12. $\int csc(x) \, dx = Ln|csc(x) - cot(x)| + C$

13. $\int sec^2(x) \, dx = tan(x) + C$

14. $\int csc^2(x) \, dx = -cot(x) + C$

15. $\int sec(x)tan(x) \, dx = sec(x) + C$

16. $\int csc(x)cot(x) \, dx = -csc(x) + C$

17. $\int sen(ax) \, dx = -\frac{cos(ax)}{a} + C$

18. $\int cos(ax) \, dx = \frac{sen(ax)}{a} + C$

19. $\int senh(x)dx = cosh(x) + C$

20. $\int cosh(x)dx = senh(x) + C$

21. $\int e^{ax} cos(bx)dx = \frac{e^{ax}(bsen(bx) + acos(bx))}{a^2 + b^2} + C$

22. $\int e^{ax} sen(bx)dx = \frac{e^{ax}(asen(bx) - bcos(bx))}{a^2 + b^2} + C$

23. $\int \frac{1}{a^2 + x^2} dx = \frac{1}{a} Arctan\left(\frac{x}{a}\right) + C$

24. $\int \frac{1}{x^2 - a^2} dx = \frac{1}{2a} Ln\left|\frac{x-a}{x+a}\right| + C$

25. $\int \frac{1}{a^2 - x^2} dx = \frac{1}{2a} Ln\left|\frac{a+x}{a-x}\right| + C$

26. $\int \frac{1}{\sqrt{a^2 - x^2}} dx = Arcsen\left(\frac{x}{a}\right) + C$

27. $\int \frac{1}{x\sqrt{x^2 - a^2}} dx = \frac{1}{a} Arcsen\left(\frac{|x|}{a}\right) + C$

$\int \frac{1}{x\sqrt{x^2 - a^2}} dx = \frac{1}{a} Arccos\left(\frac{a}{|x|}\right) + C$

28. $\int \frac{1}{\sqrt{x^2 + a^2}} dx = Ln\left(x + \sqrt{x^2 + a^2}\right) + C$

29. $\int \frac{1}{\sqrt{x^2 - a^2}} dx = Ln\left|x + \sqrt{x^2 - a^2}\right| + C$

30. $\int \sqrt{a^2 - x^2} \, dx = \frac{1}{2} x\sqrt{a^2 - x^2} + \frac{1}{2} a^2 arcsen\left(\frac{x}{a}\right) + C$

31. $\int \sqrt{x^2 + a^2} \, dx = \frac{1}{2} x\sqrt{x^2 + a^2} + \frac{1}{2} a^2 Ln\left(x + \sqrt{x^2 + a^2}\right) + C$

32. $\int \sqrt{x^2 - a^2} \, dx = \frac{1}{2} x\sqrt{x^2 - a^2} + \frac{1}{2} a^2 Ln\left(x + \sqrt{x^2 - a^2}\right) + C$

Tabla de Integrales

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Integración por partes

Fórmulas de Reducción

33. $\int \frac{1}{(a^2 \pm x^2)^m} dx = \frac{1}{a^2}\left\{\frac{x}{(2m-2)(a^2 \pm x^2)^{m-1}} + \frac{2m-3}{2m-2}\int \frac{1}{(a^2 \pm x^2)^{m-1}}\right\},$

$m \neq 1$

34. $\int (a^2 \pm x^2)^m \, dx = \frac{x(a^2 \pm x^2)^m}{2m+1} + \frac{2ma^2}{2m+1}\int (a^2 \pm x^2)^{m-1} \, dx, \qquad m \neq -\frac{1}{2}$

35. $\int \frac{1}{(x^2 - a^2)^m} dx = -\frac{1}{a^2}\left\{\frac{x}{(2m-2)(x^2 - a^2)^{m-1}} + \frac{2m-3}{2m-2}\int \frac{1}{(x^2 - a^2)^{m-1}}\right\},$

$m \neq 1$

36. $\int (x^2 - a^2)^m \, dx = \frac{x(x^2 - a^2)^m}{2m+1} - \frac{2ma^2}{2m+1}\int (x^2 - a^2)^{m-1} \, dx,$

$m \neq -\frac{1}{2}$

37. $\int x^m e^{ax} dx = \frac{1}{a} x^m e^{ax} - \frac{m}{a}\int x^{m-1} e^{ax} dx$

38. $\int sen^m(x) dx = -\frac{sen^{m-1} x cos x}{m} + \frac{m-1}{m}\int sen^{m-2}(x) dx$

39. $\int cos^m(x) dx = \frac{cos^{m-1} x sen x}{m} + \frac{m-1}{m}\int cos^{m-2}(x) dx$

40. $\int tan^m(x) dx = \frac{tan^{m-1}(x)}{m-1} - \int tan^{m-2}(x) dx$

41. $\int cot^m(x) dx = -\frac{cot^{m-1}(x)}{m-1} - \int cot^{m-2}(x) dx$

42. $\int sec^m(x) dx = \frac{sen(x) sec^{m-1}(x)}{m-1} + \frac{m-2}{m-1}\int sec^{m-2}(x) dx$

43. $\int csc^m(x) dx = -\frac{cos(x) csc^{m-1}(x)}{m-1} + \frac{m-2}{m-1}\int csc^{m-2}(x) dx$

44. $\int sen^m(x) cos^n(x) dx = \frac{sen^{m+1}(x) cos^{n-1}(x)}{m+n} + \frac{n-1}{m+n}\int sen^m(x) cos^{n-2}(x) dx,$

$m \neq n$

$$\int sen^m(x) cos^n(x) dx = -\frac{sen^{m-1}(x) cos^{n+1}(x)}{m+n} + \frac{m-1}{m+n}\int sen^{m-2}(x) cos^n(x) dx$$

45. $\int x^m sen(bx) dx = -\frac{x^m}{b} cos(bx) + \frac{m}{b}\int x^{m-1} cos(bx) dx$

46. $\int x^m cos(bx) dx = \frac{x^m}{b} sen(bx) - \frac{m}{b}\int x^{m-1} sen(bx) dx$