

## FÓRMULAS BÁSICAS DE INTEGRACIÓN

1.	$\int 0 dx = C$
2.	$\int dx = x + C$
3.	$\int a dx = a \int dx = ax + C$
4.	$\int x^n dx = \frac{x^{n+1}}{n+1} + C, n \neq -1$
5.	$\int (f(x) \pm g(x)) dx = \int f(x) dx \pm \int g(x) dx$
6.	$\int a f(u) du = a \int f(u) du$
7.	$\int e^u du = e^u + C$
8.	$\int \frac{du}{u} = \ln u  + C$
9.	$\int a^u du = \frac{a^u}{\ln a} + C$
10.	$\int \cos u du = \text{sen } u + C$
11.	$\int \text{sen } u du = -\cos u + C$
12.	$\int \sec^2 u du = \tan u + C$
13.	$\int \csc^2 u du = -\cot u + C$
14.	$\int \sec u \tan u du = \sec u + C$
15.	$\int \csc u \cot u du = -\csc u + C$
16.	$\int \tan u du = \ln \sec u  + C$
17.	$\int \cot u du = \ln \text{sen } u  + C$
18.	$\int \sec u du = \ln \sec u + \tan u  + C$

19.	$\int \csc u \, du = \ln \csc u - \cot u  + C$
20.	$\int \frac{du}{\sqrt{a^2 - u^2}} = \arcsin \frac{u}{a} + C$
21.	$\int \frac{du}{a^2 + u^2} = \frac{1}{a} \arctan \frac{u}{a} + C$
22.	$\int \frac{du}{u\sqrt{u^2 - a^2}} = \frac{1}{a} \operatorname{arcsec} \frac{u}{a} + C$
23.	$\int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln \left  \frac{u - a}{u + a} \right  + C$
24.	$\int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln \left  \frac{a + u}{a - u} \right  + C$
26.	$\int \frac{du}{\sqrt{u^2 + a^2}} = \ln \left  u + \sqrt{u^2 + a^2} \right  + C$
26.	$\int \frac{du}{\sqrt{u^2 - a^2}} = \ln \left  u + \sqrt{u^2 - a^2} \right  + C$
27.	$\int \sqrt{a^2 - u^2} \, du = \frac{1}{2} u \sqrt{a^2 - u^2} + \frac{1}{2} a^2 \arcsin \frac{u}{a} + C$
28.	$\int \sqrt{u^2 + a^2} \, du = \frac{1}{2} u \sqrt{u^2 + a^2} + \frac{1}{2} a^2 \ln \left  u + \sqrt{u^2 + a^2} \right  + C$
29.	$\int \sqrt{u^2 - a^2} \, du = \frac{1}{2} u \sqrt{u^2 - a^2} - \frac{1}{2} a^2 \ln \left  u + \sqrt{u^2 - a^2} \right  + C$

**EJERCICIOS****APLICAR LA FORMULA RESPECTIVA**

1.  $\int x^3 dx =$

2.  $\int 5x^4 dx =$

3.  $\int (4x^3 + 3x^2 - 2x + 3) dx =$

4.  $\int (3x + 2)^2 dx =$

5.  $\int \frac{2}{x^4} dx =$

6.  $\int \sqrt{x} dx =$

7.  $\int 3x^2 (6x^3 + x^2 + 2x - 4) dx =$

8.  $\int \frac{3}{\sqrt{x}} dx =$

9.  $\int 3\sqrt{x} dx =$

10.  $\int -\frac{2}{\sqrt{x}} dx =$

11.  $\int x(x^2 + 2)^8 dx =$

12.  $\int (2x + 4)(x^2 + 4x)^8 dx =$

13.  $\int (4x + 5)(2x^2 + 5x)^{10} dx =$

14.  $\int \frac{6x^2 + 1}{(4x^3 + 2x)^9} dx =$

15.  $\int (x^3 + 2)^5 3x^2 dx =$

16.  $\int (x^3 + 2)^5 6x^2 dx =$

17.  $\int 3x^2\sqrt{x^3+2} dx =$

18.  $\int \frac{3x^2}{\sqrt{x^3+2}} dx =$

19.  $\int x\sqrt{2x^2} dx =$

20.  $\int \frac{x}{\sqrt{2x^2}} dx =$

21.  $\int \frac{dx}{x} =$

22.  $\int e^x dx =$

23.  $\int \frac{dx}{x+5} =$

24.  $\int \frac{dx}{4-x} =$

25.  $\int \frac{dx}{2x+5} =$

26.  $\int \frac{x^2}{3-2x^3} dx =$

27.  $\int \frac{x+3}{x+1} dx =$

28.  $\int e^{3x} dx =$

29.  $\int e^{-x} dx =$

30.  $\int a^{3x} dx =$

31.  $\int \text{sen}(5x) dx =$

32.  $\int \text{sen}\left(\frac{1}{2}x\right) dx =$

33.  $\int \text{sen}^3 x \cos x dx =$

34.  $\int \sec^2(3x) dx =$

35.  $\int \sec(2x) \tan(2x) dx =$

36.  $\int \csc^2(3x) dx =$

37.  $\int \csc(2x) \cot(2x) dx =$

38.  $\int \frac{\operatorname{sen} x}{\cos^2 x} dx =$

39.  $\int x \cos x^2 dx =$

40.  $\int e^x \cos e^x dx =$

41.  $\int \tan x dx =$

42.  $\int \tan(3x) dx =$

43.  $\int \sec x dx =$

44.  $\int \sec(3x) dx =$

44.  $\int (\tan x + 1)^2 dx = =$

46.  $\int \frac{dx}{\sqrt{1-x^2}} =$

47.  $\int \frac{dx}{\sqrt{9-x^2}} =$

48.  $\int \frac{dx}{1+x^2} =$

49.  $\int \frac{dx}{16+x^2} =$

50.  $\int \frac{dx}{x\sqrt{x^2-1}} =$

51.  $\int \frac{dx}{x\sqrt{x^2-25}} =$

$$52. \int \frac{dx}{x^2-1} =$$

$$53. \int \frac{dx}{x^2-16} =$$

$$54. \int \frac{dx}{9-x^2} =$$