

Integración Inmediata

1. $\int (6x^2 + 8x + 3) dx$ $Sln: 2x^3 + 4x^2 + 3x + C$
2. $\int 5a^2x^6 dx$ $Sln: \frac{5}{7}a^2x^7 + C$
3. $\int \left(\frac{3}{\sqrt[3]{x}} + \frac{1}{2\sqrt{x}} + x\sqrt[4]{x} \right) dx$ $Sln = \frac{9}{2}\sqrt[3]{x^2} + \sqrt{x} + \frac{4}{9}x^2\sqrt[4]{x} + C$
4. $\int (x + \sqrt{x}) dx$ $Sln = \frac{1}{2}x^2 + \frac{2}{3}x\sqrt{x} + C$
5. $\int \frac{4}{x^2 + 9} dx$ $Sln = \frac{4}{3} \arctan\left(\frac{x}{3}\right) + C$
6. $\int \frac{dx}{x^3\sqrt[3]{x}} dx$ $Sln = -\frac{3}{4x\sqrt[3]{x}} + C$
7. $\int \left(2x^{1/3} - \frac{5}{x} + 3e^x - \frac{4}{x^2} \right) dx$ $Sln = \frac{3}{2}x\sqrt[3]{x} - 5\ln x + 3e^x + \frac{4}{x} + C$
8. $\int \left(\frac{x^2 - x^3 + 1}{x^5} \right) dx$ $Sln = \frac{-2x^2 + 4x^3 - 1}{4x^4} + C$
9. $\int \left(5\sqrt{x} - 3\sqrt[5]{x^3} - \frac{2}{\sqrt{x}} \right) dx$ $Sln = \frac{10}{3}\sqrt{x^3} - \frac{15}{8}\sqrt[5]{x^8} - 4\sqrt{x} + C$
10. $\int (3x^2 - 2x + 7) dx$ $Sln = x^3 - x^2 + 7x + C$
11. $\int \left(\sqrt{x} - \frac{1}{2}x + \frac{2}{\sqrt{x}} \right) dx$ $Sln = \frac{2}{3}x^{3/2} - \frac{1}{4}x^2 + 4x^{1/2} + C$
12. $\int \sqrt{x}(3 - 5x) dx$ $Sln = 2x^{3/2}(1 - x) + C$
13. $\int \frac{(x + 1)(x - 2)}{\sqrt{x}} dx$ $Sln = \frac{2}{5}x^{5/2} - \frac{2}{3}x^{3/2} - 4x^{1/2} + C$

MATEMÁTICA II

$$14. \int \left(\frac{\operatorname{sen} x}{\operatorname{cos} x} - \operatorname{cos} x \right) dx \quad \text{Soln} = \ln(\operatorname{sec} x) - \operatorname{sen} x + C$$

$$15. \int (\operatorname{sec} x + \operatorname{tan} x)^2 dx \quad \text{Soln} = 2 \operatorname{tan} x + \operatorname{sec} x - x + C$$

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MATEMÁTICA II

Integración por cambio de variable

$$16. \int \frac{e^x}{4 + 9e^{2x}} dx \quad Sln = \frac{1}{6} \arctan\left(\frac{3e^x}{2}\right) + C$$

$$17. \int \frac{x^3 + 7x}{x - 1} dx \quad Sln = \frac{1}{3}x^3 + \frac{1}{2}x^2 + 8x + 8\ln|x - 1| + C$$

$$18. \int \frac{\operatorname{sen} x - \cos x}{\operatorname{sen} x} dx \quad Sln = x - \ln|\operatorname{sen} x| + C$$

$$19. \int \frac{1 + \cos 2x}{\operatorname{sen}^2 2x} dx \quad Sln = -\frac{1}{2} \operatorname{ctg} 2x - \frac{1}{2} \operatorname{csc} 2x + C$$

$$20. \int e^{\operatorname{sen}^2 x} \operatorname{sen} 2x dx \quad Sln = e^{\operatorname{sen}^2 x} + C$$

$$21. \int \frac{\tan \sqrt{x-1}}{\sqrt{x-1}} dx \quad Sln = -2\ln|\cos \sqrt{x-1}| + C$$

$$22. \int \frac{e^{\arctan x} + x \ln|1 + x^2| + 1}{1 + x^2} dx$$
$$Sln = e^{\arctan x} + \frac{1}{4} \ln^2|1 + x^2| + \arctan x + C$$

$$23. \int \frac{(y+3)}{(3-y)^{2/3}} dy \quad Sln = -\frac{3}{4}(3-y)^{4/3} - 18(3-y)^{1/3} + C$$

$$24. \int y \operatorname{csc}(3y^2) \operatorname{ctg}(3y^2) dy \quad Sln = -\frac{1}{6} \operatorname{csc}(3y^2) + C$$

$$25. \int 2^{\operatorname{sen} x} \cos x dx \quad Sln = \frac{2^{\operatorname{sen} x}}{\ln|2|} + C$$

$$26. \int \frac{\sec^2(\ln x)}{2x} dx \quad Sln = \frac{1}{2} \tan(\ln x) + C$$