



**Mi Universidad**

Nombre del alumno: Yahir Aguilar Sicalhua

Nombre del tema: Ejercicios 1

Parcial: 1

Nombre de la materia: Ecuaciones diferenciales

Nombre del profesor: Jorge Enrique Albores Aguilar

Nombre de la Licenciatura: Ingeniería en Sistemas  
Computacionales

Cuatrimestre: 3

Yahir Aguilar Sicathua

$$\bullet \int x^2 dx =$$

$$\frac{x^{2+1}}{2+1} = \frac{x^3}{3} + C$$

$$\bullet \int 3x^2 dx = \frac{3x^{2+1}}{2+1}$$

$$\frac{3x^3}{3} = x^3 + C$$

$$\bullet \int e^x dx = e^x + C$$

$$\bullet \frac{1}{2} \int e^{x^2+1} \cdot 2x dx$$

$$f = x^2 + 1 \quad f' = 2x$$

$$\frac{1}{2} e^{x^2+1} + C$$

Formula

$$\int x^a = \frac{x^{a+1}}{a+1}$$

derivada

$$\frac{d(x^3+5)}{dx} = 3x^2$$

Integral

$$\int 3x^2 dx = \frac{3x^{2+1}}{2+1}$$

$$\frac{3x^3}{3} = x^3 + C$$

$$\bullet \int 10^{x^5+2} x^4 dx$$

$$f = x^5 + 2 \quad f' = 5x^4$$

$$\frac{2/5}{\ln 10} 10^{x^5+2} + C$$

$$\bullet \int \frac{x^4}{2x^{5+1}} dx$$

$$f = 2x^{5+1} \quad f' = 10x^4$$

$$\frac{1/10}{\ln 2} |2x^{5+1}| + C$$

$$\bullet \frac{d(5x^4 + 2x^3 + 3)}{dx}$$

$$\frac{d(5x^4)}{dx} + \frac{d(2x^3)}{dx} + \frac{d(3)}{dx}$$

$$20x^3 + 6x^2$$

$$\bullet \frac{d(4x^2+3)^3}{dx}$$

$$3(4x^2+3)^2 \cdot \frac{d(4x^2+3)}{dx}$$

$$3(4x^2+3)^2 (8x+3)$$

$$(24x+9)(4x^2+3)^2$$

$$\bullet \frac{d(12x^8 + 4x + 2)^5}{dx}$$

$$\frac{d(12x^8)}{dx} + \frac{d(4x)}{dx} + \frac{d(2)}{dx}$$

$$96x^7 + 4$$

$$\bullet \frac{d(10x^7 + 3x^2 + 2x + 5)^6}{dx}$$

$$\frac{d(10x^7)}{dx} + \frac{d(3x^2)}{dx} + \frac{d(2x)}{dx} + \frac{d(5)}{dx}$$

$$70x^6 + 6 + 2$$

$$\bullet \frac{d(7x^2 + 4x + 2)^7}{dx}$$

$$\frac{d(7x^2)}{dx} + \frac{d(4x)}{dx} + \frac{d(2)}{dx}$$

$$14x + 4$$

Yahir Aguilar Sicathua

$$\bullet \frac{3}{4} \int 7^{x^4+3} 2x dx$$

$$f = x^4 + 3 \quad f' = 4x$$

$$\frac{3}{4} e^{x^4+3} + C$$

$$\bullet \int \frac{2x^2}{3x^3+2} dx$$

$$f = 3x^3+2 \quad f' = 4x$$

$$\frac{1}{4} \ln |3x^3+2| + C$$

$$\bullet \int 4x dx$$

$$4x + C$$

$$\bullet \int 2x^{2+3} x dx$$

$$f = 2x^2+3 \quad f' = x$$

$$A = 2x^{2+3} + C$$

$$\bullet \int e^x dx$$

$$= e^x + C$$

$$\bullet \int 2^{2x^2+3} 3x dx$$

$$f = 2x^2+3 \quad f' = 3x$$

$$\frac{1}{3} \frac{4x^{2+3}}{\ln 4} + C$$