Nombre del profesor: Jorge Enrique Albores

Grado: 6

Materia: Matemática Aplicada

Fecha: 10/07/2022

Nombre del trabajo: ejercicios 3

$\int e^x dx$

$e^x + c$

$\int e^{5x^2+1} x\, dx \quad F = 5x^2+1 \quad F' = 10x$

$\frac{1}{10} e^{5x+1} dx$

$\frac{1}{10} e^{5x^2+1} + c$

$\int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx \quad F = \sqrt{x} \quad F'$

$2 \int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx \quad 1/2 \times 1/2 - 1 = 1/2 \times -1/2 = \frac{1}{2\sqrt{x}}$

$a^{10x^2+2} 3x\, dx \quad F = 10x^2+2 \quad F' = 20x$

$\frac{10}{20} \int a^{10x^2+2} 3x\, dx \quad \frac{10}{20} \frac{a^{10x^2+2}}{\ln a} + c$

$10x^2\, dx \quad F = 12x^3+2 \quad F' = 36x^2$

$\frac{10}{36} \frac{x^2\, dx}{12x^3+2} dx \quad \frac{10}{36} \ln|12x^3+2| + c$

$\int 10^{4x^3+2} x^2\, dx \quad F = 4x^3+2 \quad F' = 72x^2$

$\frac{1}{12} \int 10^{4x^3+2} x^2\, dx$

$\int 15^{x^2-3} 2x\, dx \quad F = 15x^2-3 \quad F' = 30x$

$\frac{1}{30} \int 15^{x^2-3} 2x\, dx \quad \frac{1}{30} a \frac{15^{x^2-3} 2x}{\ln 10} + c$

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

$\int e^{x^5+2} 3x^4\, dx$

$\frac{1}{3} e^{x^5+2} + c$

$\int 3x^2+1\ x\,dx \quad f=3x^2+1 \quad f'=6x$

$\frac{1}{6}\ 3x^2+1\ x\,dx \quad \frac{1}{6}\ \frac{9\ 3x^2+1\ x+c}{\ln 3}$

$\int e\ 4x10+2\ \ 2x9\,dx \quad f=4x10+2 \quad f'=40x9$

$\frac{1}{40}\int e\ 4x10+2\ \ 2x9\,dx \quad \frac{1}{40}\int e\ 410+2\ 2x9+c$

$\int \frac{8x5}{3x6+1}\,dx \quad +=3x6+1 \quad f=18x5$

$\frac{8}{18}\int \frac{8x5}{3x6+1}\,dx \quad \frac{8}{18}\ |\ln|3x6+1|+c$

$\int 43x2+1\ x^3\,dx \quad f=3x^2+1 \quad f=6x$

$\frac{1}{6}\int 4^3x^2+1\ x^3\,dx$

$\int ex^2\,dx \quad f=x^2 \quad f'=2x$

$\frac{1}{2}\int ex^2\ x\,dx \quad \frac{1}{2}\ ex^2+c$

$\int 3x^2+1\ 5x\,dx \quad f=x^2+1 \quad f'=2x$

$\frac{1}{2}\int 3x^2+1\ \ 5x\,dx \quad \frac{1}{2}\ \frac{3x2+1}{\ln 3}+c$

$\int 12\ 4x^2+2\ \ 5x\,dx \quad f=4x2+2 \quad f'=8x$

$\frac{1}{8}\int 12\ 4x2+2\ \ 5x\,dx \quad \frac{1}{8}\ \frac{12\ 4x^2+2}{\ln 12}+c$

$\int e\ 2x6-3\ \ 4x5\,dx$

$\frac{1}{8}\ e2x6-3+c$