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Nombre del trabajo:

Ejercicios

PASIÓN POR EDUCAR

Materia:

Matemáticas aplicadas

Grado: 6to Cuatrimestre

Grupo: Único

AIAN FRANCISCO GALLEGOS MORALES.

1. $\int e^x dx$.

~~e^x~~ $\frac{e^x}{1}$ *

2. $\int e^{5x^2+7} x dx$

$F = 5x^2 + 7$ $F' = 10x$

$\frac{1}{10} e^{5x^2+7} dx$ $\frac{1}{10} e^{5x^2+7} + C$ *

3. $\int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx$

$F = \sqrt{x}$ $F' = \frac{1}{2\sqrt{x}}$

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

4. $\int a^{10x^2+2} 3x dx$

$F = 10x^2 + 2$ $F' = 20x$

$\frac{10}{20} \int a^{10x^2+2} 3x dx$ $\frac{10}{20} \frac{a^{10x^2+2}}{\ln a} + C$ *

5. $\int \frac{10x^2}{12x^3+2} dx$ $F = 12x^3+2$ $F' = 36x^2$

$\frac{10}{36} \frac{x^2}{12x^3+2} dx$ $\frac{10}{36} \ln |12x^3+2| + C$ *

6. $\int 704x^{3+2} x^2 dx$

$F = 4x^3+2$ $F' = 12x^2$ $\frac{1}{12} \int 704x^{3+2} x^2 dx$

7. $\int e^{4x^2+7} 3x dx$

$F = 4x^2+7$ $F' = 8x$ $\frac{3}{8} \int e^{4x^2+7} 3x dx$

$\frac{3}{8} e^{4x^2+7} 3x + C$ *

8. $\int 75x^{2-3} 2x dx$ $F = x^2-3$ $F' = 2x$

$\frac{1}{2} \int 75x^{2-3} 2x dx$ $\frac{1}{2} \frac{75x^{2-3}}{\ln 75} + C$ *

9. $\int e^{x^5+2} 3x^4 dx$ $F = x^5+2$ $F' = 5x^4$

$\frac{1}{5} e^{x^5+2} + C$ *

10. $\int 3x^{2+7} x dx$ $F = x^2+7$ $F' = 2x$

$\frac{1}{2} \frac{3x^{2+7}}{\ln 3} + C$ *

11. $\int \frac{3x^3}{2x^6+70} dx$ $F = 2x^6+70$ $F' = 12x^5$

$\frac{3}{12} \int \frac{3x^3}{2x^6+70} dx$ $\frac{3}{12} \ln |2x^6+70| + C$ *

12. $\int e^{4x^{10}+2} 2x^9 dx$

$F = 4x^{10}+2$ $F' = 40x^9$

$\frac{1}{40} e^{4x^{10}+2} + C$ *

13. $\int \frac{8x^5}{3x^6+7} dx$ $F = 3x^6+7$ $F' = 18x^5$

$\frac{8}{18} \int \frac{8x^5}{3x^6+7} dx$ $\frac{8}{18} \ln |3x^6+7| + C$ *