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Nombre del trabajo:

Ejercicios

Materia:

Matemáticas Aplicadas

PASIÓN POR EDUCAR

Grado:

Sexto Cuatrimestre

Grupo:

Único

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Boha Yamiteth puliten Flores

$$\textcircled{1} \int e^x dx \quad \underline{e^x + C}$$

$$\textcircled{2} \int e^{5x+11} x dx \quad f = 5x+11 \quad f' = 10x$$
$$\frac{1}{10} \int e^{5x+11} x dx$$

$$\underline{\frac{1}{10} e^{5x+11} x + C}$$

$$\textcircled{3} \int a^{10x^2+12} 3x dx \quad f = 10x^2+12 \quad f' = 20x$$

$$\frac{10}{20} \int a^{10x^2+12} 3x dx \quad \underline{\frac{10}{20} \frac{a^{10x^2+12}}{\ln a} + C}$$

$$\textcircled{4} \int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx \quad f = \sqrt{x} \quad f' = 1/2 x^{-1/2} = 1/2 x^{-1/2} = \frac{1}{2\sqrt{x}}$$

$$2 \int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx \quad \underline{2 e^{\sqrt{x}} + C}$$

$$\textcircled{5} \int 10x^2 dx \quad f = 12x^3+12 \quad f' = 36x^2$$

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

$$\textcircled{6} \int 104x^{3+12} x^2 dx \quad f = 4x^3+12 \quad f' = 12x^2$$

$$\frac{1}{12} \int 104x^{3+12} x^2 dx \quad \underline{\frac{1}{12} a \frac{104x^{3+12} x^2}{\ln 10} + C}$$

$$\textcircled{7} \int e^{4x^2+11} 3x dx \quad f = 4x^2+11 \quad f' = 8x$$

$$\frac{3}{8} \int e^{4x^2+11} 3x dx \quad \underline{\frac{3}{8} e^{4x^2+11} 3x + C}$$

$$\textcircled{8} \int 15x^2-3 \cdot 2x dx \quad f = 15x^2-3 \quad f' = 30x$$

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

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$$\textcircled{9} \int e^{3x+2} 3x^4 dx \quad f = x^5 \quad f' = 5x^4$$
$$\frac{1}{5} e^{3x+2} + C$$

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$$\textcircled{10} \int 3x^{2+1} x dx \quad f = 3x^{2+1} \quad f' = 6x$$
$$\frac{1}{6} \int 3x^{2+1} x dx = \frac{1}{6} \frac{3x^{2+1} x}{\ln 3} + C$$

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$$\textcircled{11} \int \frac{3x^5}{2x^6-10} dx \quad f = 2x^6-10 \quad f' = 12x^5$$
$$\frac{3}{12} \int \frac{x^5}{2x^6-10} dx = \frac{3}{12} |\ln|2x^6-10|| + C$$

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$$\textcircled{12} \int e^{4x+10+2} 2x^9 dx \quad f = 4x^{10+2} \quad f' = 40x^9$$
$$\frac{1}{40} \int e^{4x+10+2} 2x^9 dx = \frac{1}{40} e^{4x+10+2} 2x^9 + C$$

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$$\textcircled{13} \int \frac{8x^5}{3x^6+1} dx \quad f = 3x^6+1 \quad f' = 18x^5$$
$$\frac{8}{18} \int \frac{8x^5}{3x^6+1} dx = \frac{8}{18} |\ln|3x^6+1|| + C$$

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$$\textcircled{14} \int 4^3 x^{2+1} x^3 dx \quad f = 3x^{2+1} \quad f' = 6x$$
$$\frac{1}{6} \int 4^3 x^{2+1} x^3 dx = \frac{1}{6} |4^3 x^{2+1} x^3| + C$$

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$$\textcircled{15} \int e^{x^2} x dx \quad f = x^2 \quad f' = 2x$$
$$\frac{1}{2} \int e^{x^2} x dx = \frac{1}{2} e^{x^2} + C$$

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$$\textcircled{16} \int 3x^{2+1} 5x dx \quad f = x^2+1 \quad f' = 2x$$
$$\frac{1}{2} \int 3x^{2+1} 5x dx = \frac{1}{2} \frac{3x^{2+1}}{\ln 3} + C$$

$$\textcircled{17} \int 12^4 x^{2+2} 5x dx \quad f = 4x^{2+2} \quad f' = 8x$$
$$\frac{1}{8} \int 12^4 x^{2+2} 5x dx = \frac{1}{8} \frac{12^4 x^{2+2}}{\ln 12} + C$$

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18) $\int C^2 x^{6-3} 4x^5 dx$ Jafra Yamileth Gullion Flores
 $t = 2x^6 \rightarrow t' = 12x^5$

$$\frac{1}{2} C^2 x^{6-3} + C$$