



**NOMBRE DEL ALUMNO: OSWALDO
JAVIER LÓPEZ ÁLVAREZ**

**NOMBRE DEL PROFESOR: JORGE
ENRIQUE**

NOMBRE DEL TRABAJO: INTEGRALES

MATERIA: ECONOMIA

GRUPO: RECURSOS HUMANOS

GRADO: 6

COMITAN DE DOMINGEZ, CHIAPAS

Oswaldo Javier López Alvaroz

$$1. \int e^x dx = e^x + C$$

$$2. \int e^{5x+1} x dx \quad f = 5x^2 + 1$$

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

$$3. \int a^{10+2} 3x dx \quad f = 10x^2 + 2$$

$$f' = 20x \quad \frac{3}{20} \frac{a^{10+2}}{\ln a} + C$$

$$4. \int e^{\sqrt{x}} \frac{1}{\sqrt{x}} dx \quad f = \sqrt{x}$$

$$f' = \frac{1}{2} x^{-1/2} = \frac{1}{2} x^{-1/2} = 2\sqrt{x} =$$

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

$$5. \int \frac{10x^2}{12x^3+3} dx \quad f = 12x^3+3$$

$$f' = 36x^2 \quad \frac{10}{36}$$

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

$$6. \int 10^4 x^{3+1} x^2 dx \quad f = 4x^3 + 2 =$$

$$f' = 12x^2 \quad \frac{1}{2} \int 10^4 x^3 + x^2 dx =$$

$$\frac{1}{2} = 12x^2 = \frac{10^4 x^3 + 2x^2}{\ln 10} + C$$

$$7. \int e^{4x^3+2x^2} dx \quad f = 4x^3 + 1 \quad f' = 8x$$

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

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

$$\frac{1}{30} \int 15 x^{2-3} x dx \quad f = 15$$

$$x dx = \frac{1}{30} \frac{15 x^{2-3} x}{\ln 10} + C$$

$$9. \int (x^5 + 23x^4) dx \quad f(x) = 5x^4 \quad F = 5x^4$$

$$\frac{1}{5} \int (x^5 + 23x^4) dx = \frac{1}{5} (x^6 + 23x^5) + C$$

$$10. \int (3x^2 + 11x) dx \quad f(x) = 3x^2 + 11x \quad F = 6x$$

$$\frac{1}{6} \int (3x^2 + 11x) dx = \frac{1}{6} (x^3 + 11x^2) + C$$

$$11. \int \frac{3x^5}{2x^6 - 10} dx = \frac{3}{12} \int \frac{x^5}{2x^6 - 10} dx = \frac{3}{12} \left| \ln |2x^6 - 10| \right| + C$$

$$12. \int (4x^{10} + 2 \cdot 2x^9) dx \quad F = 4x^{10} + 2$$

$$F' = 40x^9 \quad \frac{1}{40} (4x^{10} + 2 \cdot 2x^9) dx$$

$$\frac{1}{40} (4x^{10} + 4x^9) dx = \frac{1}{10} (x^{10} + x^9) + C$$

$$13. \int \frac{8x^5}{3x^6 + 1} dx \quad F = 3x^6 + 1 \quad F' = 18x^5$$

$$\frac{8}{18} \int \frac{8x^5}{3x^6 + 1} dx = \frac{8}{18} \left| \ln |3x^6 + 1| \right| + C$$

$$14. \int (4x^3 + x^3) dx \quad F = 3x^2 + 1 \quad F' = 6x$$

$$\frac{1}{6} \int (4x^3 + x^3) dx = \frac{1}{6} (x^4 + x^4) + C = \frac{1}{3} (x^4 + x^4) + C$$

$$15. \int e^{x^2} \cdot x dx \quad F = x^2 \quad F' = 2x$$

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

$$16. \int (3x^2 + 1) \cdot 5x dx \quad F = x^3 \quad F' = 3x^2$$

$$\frac{1}{2} \int (3x^2 + 1) \cdot 5x dx = \frac{1}{2} \int (3x^2 + 1) \cdot 5x dx = \frac{1}{2} \left(\frac{3x^3 + 5x}{3} \right) + C$$