

SOLUCIONES DEL TRABAJO DE INTEGRALES INDEFINIDAS

Ejercicio 1: Resuelve las siguientes integrales:

$$1) \int (4x^2 - 5x + 7) dx = \frac{4}{3}x^3 - \frac{5}{2}x^2 + 7x + C$$

$$2) \int \cos(\operatorname{Ln}x) dx = \frac{x}{2}(\cos(\operatorname{Ln}x) + \operatorname{sen}(\operatorname{Ln}x)) + C$$

$$3) \int \frac{dx}{\sqrt[5]{x}} = \frac{5}{4}\sqrt[5]{x^4} + C$$

$$4) \int \frac{x^4 + 2x - 6}{x^3 + x^2 - 2x} dx = \frac{x^2}{2} - x + 3\operatorname{Ln}|x| + \operatorname{Ln}|x + 2| - \operatorname{Ln}|x - 1| + C$$

$$5) \int \frac{1}{2x + 7} dx = \frac{1}{2} \operatorname{Ln}|2x + 7| + C$$

$$6) \int (x - \operatorname{sen}x) dx = \frac{1}{2}x^2 + \cos x + C$$

$$7) \int (x^2 + 4x)(x^2 - 1) dx = \frac{1}{5}x^5 + x^4 - \frac{1}{3}x^3 - 2x^2 + C$$

$$8) \int (x - 1)^3 dx = \frac{1}{4}(x - 1)^4 + C$$

$$9) \int \frac{x^2 - 5x + 4}{x + 1} dx = \frac{x^2}{2} - 6x + 10\operatorname{Ln}|x + 1| + C$$

$$10) \int e^x \operatorname{sen}2x dx = \frac{1}{5}e^x (\operatorname{sen}2x - 2 \cos 2x) + C$$

$$11) \int \operatorname{sen}(x - 4) dx = -\cos(x - 4) + C$$

$$12) \int \frac{7}{\cos^2 x} dx = 7 \operatorname{tag}x$$

$$13) \int \frac{2x - 4}{(x - 1)^2 (x + 3)} dx = \frac{5}{8} \operatorname{Ln}|x - 1| + \frac{1}{2} \frac{1}{x - 1} - \frac{5}{8} \operatorname{Ln}|x + 3| + C$$

$$14) \int \frac{2x - 3}{x^3 - 2x^2 - 9x + 18} dx = \frac{-1}{5} \operatorname{Ln}|x - 2| + \frac{1}{2} \operatorname{Ln}|x - 3| - \frac{3}{10} \operatorname{Ln}|x + 3| + C$$

$$15) \int (e^x + 3e^{-x}) dx = e^x - 3e^{-x} + C$$

$$16) \int \operatorname{arc} \cos x dx = x \operatorname{arccos} x - \sqrt{1 - x^2} + C$$

$$17) \int \frac{3}{1 + x^2} dx = 3 \operatorname{arctag} x + C$$

$$18) \int \frac{dx}{\sqrt{1 - 4x^2}} = \frac{1}{2} \operatorname{arcsen}(2x) + C$$

$$19) \int \frac{e^x}{\sqrt{1 - e^{2x}}} dx = \operatorname{arcsen} e^x + C$$

$$20) \int \frac{1}{x} (\operatorname{Ln}x)^3 dx = \frac{1}{4} (\operatorname{Ln}x)^4 + C$$