



NOMBRE: RUBI DE JESUS ALVAREZ SANCHEZ

MATERIA: MATEMATICA APLICADA

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6TO SEMESTRE ENFERMERIA

Rubi De Jesús Álvarez Sánchez

$$1) \int \text{sen}^{-1} 3x^2 dx$$

$$\int \text{sen}^{-1} 3x dx = \sqrt{1 - (3)^2 (x)^2} + x \text{sen}^{-1} 3x + c$$

$$= \frac{\sqrt{1 - 9x^2}}{3} + x \text{sen}^{-1} 3x + c$$

$$= \sqrt{\frac{1}{3} - 3x^2} + \frac{x}{\text{sen} 3x} + c$$

$$2) \int \text{cos}^{-1} 5x dx$$

$$= \text{cos}^{-1} (5x) - \frac{\sqrt{1 - (5)^2 (x)^2}}{5} + c$$

$$\frac{x}{\text{cos} 5x} - \frac{\sqrt{1 - 25x^2}}{5} + c$$

$$\frac{x}{\text{cos} 5x} - \sqrt{\frac{1}{25} - 25x^2} + c$$

$$\textcircled{3} \int \tan^{-1} \frac{1}{x^2} dx$$

$$= x^2 \tan^{-1} \left( \frac{1}{x^2} \right) - \frac{\ln |(1)^2 (x^2)^2 + 1|}{2(1)} + c$$

$$= x^2 \tan^{-1} \left( \frac{1}{x^2} \right) - \frac{\ln |(2)(x^4) + 1|}{2} + c$$

$$= \frac{x^2}{\tan^{-1} \frac{1}{x^2}} - \frac{\ln |3x^4|}{2} + c$$

$$\textcircled{4} \int \csc^{-1} 2x^2 dx =$$

$$\frac{\ln |2\sqrt{(2)^2 (x^2) - 1} + 2x^2|}{2} + x^2 \csc^{-1} (2x^2) + c$$

$$\frac{\ln |2\sqrt{4x^2 - 1} + 2x^2|}{2} + \frac{x^2}{\csc 2x^2} + c$$

$$= \frac{\ln |2\sqrt{5x^4}|}{2} + \frac{x^2}{\csc 2x^2} + c$$



$$\textcircled{5} \int \cot^{-1} \sqrt{2} x \, dx$$

$$= \frac{\ln|\sqrt{2} x^2 + 1| + x \cot^{-1}(\sqrt{2} x) + C}{2(\sqrt{2})}$$

$$\frac{\ln|1x^2 + 1| + x \cot^{-1}(1x) + C}{2}$$

$$\boxed{\frac{x^2}{2} + 1 + x \cot^{-1}(1x) + C}$$

$$\textcircled{6} \int \sin^{-1} \sqrt{2} x^2 \, dx$$

$$= \frac{\sqrt{1 - (\sqrt{2})^2 x^2} + x \sin^{-1}(\sqrt{2} x) + C}{\sqrt{2}}$$

$$1 - 1x^2 + x \sin^{-1}(x) + C$$

$$1/1 - x^2 + \frac{x}{\sin} (x) + C$$