

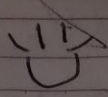


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Trabajo EXAMEN FINAL

Grupo "A" Grado 6º

Examen Final 

1. $\int \text{Sen}^{-1} 3x^2 dx$

$$\frac{\sqrt{1-(3)^2(x)^2} + x \text{sen}^{-1}(3x) + C}{\sqrt{1-9x^2} + x \text{sen}^{-1}(3x) + C}$$

$$\frac{\text{Fac.}}{\text{sen}} \left[\sqrt{1-3x^2} + \frac{x}{3x+C} \right]$$

2. $\int \text{Cos}^{-1} 5x dx$

$$x \text{cos}^{-1}(5x) - \frac{\ln|(5)^2(x)^2 + 1 + C}{2(5)}$$

$$= \frac{25x^2 + 1 + C}{10}$$

$$\frac{\text{Fac.}}{25/10} \left[x^2 + 1 + C \right]$$

3. $\int \text{TAN}^{-1} 1/x^2 dx$

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

$$\frac{\ln|x^2 + 1 + C}{2}$$

$$\frac{\text{Fac.}}{2} \left[x^2/2 + 1 + C \right]$$

$$4.- \int \cos^3 2x / 3 dx$$

$$1/3 \int \frac{\cos^3 2x}{3} dx = 1/3 \int \cos^3 2x dx$$

$$= u = 2x$$

$$1/3 \int \cos^3 u du$$

$$1/3 \cdot 1/2 \int \cos^2 u \cos u du$$

$$\cos^2 x = 1 - \sin^2 x \quad u = \sin$$

$$1/3 \cdot 1/2 (\sin 2x \cdot \sin^3 2x)$$

$$= 1/6 (\sin 2x - \frac{\sin^3 2x}{3}) + C$$

$$5.- \int \sec^4 2x dx$$

$$1/2 \int \sec^4(u) du$$

$$\int \sec^4 u du = \int \sin^2(u) \sec^2(u) du$$

$$1/2 \int \sec^2 u \sec^2 u du = \sec^2 x = 1 + \tan^2 x$$

$$1/2 \int (1 + u^2) du = 1/2 \int 1 du + \int u^2 du$$

$$\int 1 du = u = \int u^2 du = u^3/3 = 1/2 (u + u^3/3)$$

$$= 1/2 (\tan 2x + \tan^3(2x)/3) + C$$

$$6.- \int \csc^{-1} 2x^2 dx$$

$$\ln |2 \frac{\sqrt{(5)^2 x^2 - 1} + 5x}{5} + \csc^{-1}(5x)| + C$$

$$\frac{(\sqrt{25x^2 - 9x}) + x \csc^{-1}(5x) + C}{5}$$

$$\frac{25/5x^2 - 4x + \frac{x}{\csc(5x)} + C}{5}$$

$$7. - \int \cot^{-1} \sqrt{2} x \, dx$$

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

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

$$\frac{\text{Fac}}{x^2/2 + 1} \cot^{-1}(x) + C$$

$$8. - \int \sin^{-1} \sqrt{2} x^2 \, dx$$

~~$$\frac{\sqrt{1 - (\sqrt{2} x)^2} + \frac{x}{\sqrt{2}} \cot^{-1} \left(\frac{x}{\sqrt{2}} \right) + C}{\sqrt{2}}$$~~

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

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

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

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

PD: PROFE LO QUIERO FUE EL MEJOR MESTRO QUE PUDE TENER