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**Materia: Matemáticas Aplicadas**

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$$1_0 - \int \text{sen } 8x \, dx$$

$$U = 8x \quad dU = 8$$

$$-\frac{1}{8} \cos 8x + C$$

$$\frac{1}{8} \int \text{sen } 8x \, dx$$

$$2_0 - \int x \cos 2x^2 \, dx$$

$$U = 2x^2 \quad dU = 4x$$

$$\frac{1}{4} \text{sen } 2x^2 + C$$

$$\frac{1}{4} \int x \cos 2x^2 \, dx$$

$$3_0 - \int \frac{\tan \sqrt{x}}{\sqrt{x}} \, dx$$

$$U = \sqrt{x} \quad dU$$

$$x^n = nx^{n-1} \quad \frac{1}{2} x^{\frac{1}{2}-1} = \frac{1}{2} x^{-\frac{1}{2}} = \frac{1}{2\sqrt{x}}$$

$$2 \int \frac{\tan \sqrt{x}}{\sqrt{x}} \, dx$$

$$-2 \ln |\cos \sqrt{x}| + C$$

$$4_0 - \int x^2 \cot 3x^3 dx$$

$$u = 3x^3 \quad du = 9x^2$$

$$\frac{1}{9} \int x^2 \cot 3x^3 dx$$

$$\frac{1}{9} \ln |\sin 3x^3| dx$$

$$5_0 - \int x \sin 2x^2 dx$$

$$u = 2x^2 \quad du = 4x$$

$$\frac{1}{4} \int x \sin 2x^2 dx$$

$$-\frac{1}{4} \cos 2x^2 + C$$

$$6_0 - \int \tan 2x dx$$

$$u = 2x \quad du = 2$$

$$\frac{1}{2} \int \tan 2x dx$$

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

$$7_0 - \int 3x^2 \tan x^3 dx$$

$$u = x^3 \quad du = 3$$

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

$$-\frac{1}{3} \ln |\cos x^3| + C$$

$$8.- \int x \sec \log x^2 dx$$

$$u = \log x^2 \quad du = 20x$$

$$\frac{1}{20} \int x \sec \log x^2 dx$$

$$\frac{1}{20} \ln |\sec \log x^2 + \tan \log x^2| + C$$