

Tarea 2.2

24/06/21

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Grupo: 23.

$$\textcircled{1} \int \sqrt{\frac{\arcsen x}{1-x^2}} dx = \int \frac{(\arcsen x)'}{\sqrt{1-x^2}} dx = \int u^{1/2} du = \frac{u^{3/2}}{\frac{3}{2}} + C$$

$$u = \arcsen x$$

$$du = \frac{1}{\sqrt{1-x^2}} dx$$

$$= \frac{2\sqrt{u^3}}{3}$$

$$\int \sqrt{\frac{\arcsen x}{1-x^2}} dx = \frac{2\sqrt{(\arcsen x)^3}}{3} + C$$

$$\textcircled{2} \int_0^3 t \cos(t^2) dt = \frac{1}{2} \int \cos(u) du = \frac{1}{2} \text{sen}(u)$$

$$u = t^2$$

$$= \frac{1}{2} \text{sen}(t^2)$$

$$du = 2t dt$$

$$\frac{du}{2} = t dt$$

Evaluamos

$$\frac{\text{sen}(t^2)}{2} \Big|_0^3 = \frac{\text{sen}((3^2)^2)}{2} - \frac{\text{sen}(0^2)}{2} = \frac{\text{sen}(t^6)}{2}$$

$$\int_0^3 t \cos(t^2) dt = \frac{\text{sen}(t^6)}{2}$$



$$\textcircled{30} \int (x^3 - 2x) 6^{(x^2-2)^2} dx = \frac{1}{4} \int 6^u du = \frac{1}{4} \cdot \frac{6^u}{\ln(6)}$$

$$= \frac{1}{4} \cdot \frac{6^{(x^2-2)^2}}{\ln(6)}$$

$$u = (x^2 - 2)^2$$

$$du = 2(x^2 - 2) \cdot 2x dx$$

$$du = (2x^2 - 4) \cdot 2x dx$$

$$du = 4x^3 - 8x dx$$

$$\frac{du}{4} = x^3 - 2x dx$$

$$\int a^x dx = \frac{a^x}{\ln(a)}$$

$$\int (x^3 - 2x) 6^{(x^2-2)^2} = \frac{6^{(x^2-2)^2}}{4(\ln(6))}$$