

# Examen



- Materia: matematica
- Carrera: TEC. ENFERMERIA
- Semestre/
- Brenda mayari Alvarado bravo

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$$1. \int_{-2}^2 \sin^2 x \, dx$$

$$\int_{-2}^2 \sin^2(x) \, dx = \frac{1}{2} (4 - \sin(4)) \quad \left( \begin{array}{l} \text{Decimal} \\ 2.378401248 \end{array} \right)$$

$$= \int_{-2}^2 \frac{1 - \cos(2x)}{2} \, dx = \frac{1}{2} \int_{-2}^2 (1 - \cos(2x)) \, dx = \frac{1}{2} \left( \int_{-2}^2 1 \, dx - \int_{-2}^2 \cos(2x) \, dx \right)$$

$$\int_{-2}^2 1 \, dx = 4 \quad \int_{-2}^2 \cos(2x) \, dx = \sin(4)$$

$$\underline{R = \frac{1}{2} (4 - \sin(4))} //$$

$$2. \int_{-3}^3 \sin^3 x / 3 \, dx$$

$$\int_{-3}^3 \frac{\sin^3(x)}{3} \, dx = 0 \quad \frac{\sin^3(x)}{3} \text{ inPar}$$

$$\int_{-3}^3 \frac{\sin(x)}{3} \, dx$$

$$\underline{R = 0} //$$

$$3. \int_{\pi/2}^{\pi} \sin^2 x + \cos^2 x \, dx$$

$$4. \int_{-\pi/2}^{\pi/2} \cos^3 2x \, dx \quad \int_{-\pi/2}^{\pi/2} \cos^3(2x) \, dx = \frac{1}{6} (-\sin(2x)) + \frac{\sin^3(2x)}{3}$$

Decimal 0.06147

$$\int_{-\pi/2}^{\pi/2} \cos^3(2x) \, dx$$

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

$$5. \int_{-\pi/2}^{\pi/2} \sec^4 2x \, dx$$

$$\int_{-\pi/2}^{\pi/2} \sec^4 2x \, dx \quad \int \left( \frac{1}{\cos(2x)} \right)^4 dx$$

$$R = \int_{-\pi/2}^{\pi/2} \frac{1}{\cos(2x)^4} dx$$

$$6. \int_{-\pi/2}^{\pi} \sin 2x \cos 3x \, dx$$

$$R = -\frac{2}{5} = -0.4$$

$$R = -5$$

$$7. \int_{-3}^2 (1 + \cos 3x)^{3/2} \, dx$$

$$R = \int_{-3}^2 (2 \cos(\frac{3x}{2}))^2 \frac{3}{2} \, dx$$

$$8. \int_{-4}^1 1 - \sin 2x \, dx$$

$$R = \frac{-\cos(2) + 10 - \cos(8)}{2} \approx -4.864676599 //$$