UNIMINUTO
Corporación Universitaria Minuto de Dios
Educación de calidad al alcance de todos
Vigilada MinEducación



**1. DETERMINA LAS SIGUIENTES INTEGRALES DEFINIDAS:**

**A.**

$$\int_4^7 x^2 dx = \frac{x^{\square}}{\square}\Big]_4^7 = \frac{\square^{\square}}{3} - \frac{\square^{\square}}{3} = \frac{\quad}{\square} - \frac{\quad}{\square} = \frac{\quad}{\square} =$$

B.

$$\int_{-2}^{-1}\frac{dx}{(x-1)^3} = \int_{-2}^{-1}(x-1)^{\square}dx = \frac{(\ \ -\ \ )^{\square}}{\square}\Big]_{-2}^{\square} = -\frac{1}{(\ \ -\ \ )^{\square}}\Big]_{-2}^{\square}$$

$$= \left(-\frac{1}{2(\quad -1)^{\square}}\right) - \left(-\frac{1}{2(\quad -1)^{\square}}\right) = -\frac{1}{2(-\quad)^{\square}} + \frac{1}{2(-\quad)^{\square}}$$

$$= -\frac{1}{2(\quad)} + \frac{1}{2(\quad)} = -\frac{\square}{\square} + \frac{\square}{\square} = -\frac{\square}{\square}$$

C. Para el siguiente ejercicio ten en cuenta la identidad trigonométrica $sen^2 x = \frac{1-cos2x}{2}$ y la integral $\int \frac{cos2x}{2}dx = \frac{sen2x}{4}$

$$\int_0^\pi sen^2 x\,dx = \int_0^\pi \frac{1-\qquad}{2}dx = \int_0^\pi \frac{1}{2}\,dx - \int_0^\pi \frac{\qquad}{2}\,dx = \frac{1}{2}\quad\Big]_0^\pi$$

$$- \frac{\qquad}{4}\Big]_0^\pi = \left[\frac{1}{2}(\pi) - \frac{1}{\square}(\quad)\right] - \left[\frac{\quad 2(\pi)}{4} - \frac{\quad 2(\quad)}{\square}\right]$$

$$= \frac{\square}{\square}\pi - \frac{sen\quad\pi}{4} = \frac{\square}{\square}\pi$$

**2. DETERMINE LAS SIGUIENTES INTEGRALES INDEFINIDAS.**

A. $$\int \frac{1}{x^2\sqrt[5]{x^2}}dx = \int x^{-}\ x^{-\frac{\square}{\square}}dx = \int x^{-\frac{\square}{\square}}dx = \frac{x^{-\frac{\square}{\square}}}{-\frac{\square}{\square}} + C = -\frac{5}{\sqrt[5]{\square^7}} + C$$

$$= -\frac{5}{7\quad\sqrt[5]{X^{\square}}} + C$$

B. $$\int(x+\sqrt{x})dx = \int \square\,dx + \int x^{\frac{\square}{\square}}dx = \frac{\quad^2}{\square} + \frac{2\quad^{\frac{3}{2}}}{\frac{\square}{\square}} + C = \frac{\quad^2}{\square} + \frac{2\quad^{\frac{3}{2}}}{\square} + C$$

$$\frac{\quad^2}{\square} + \frac{2\sqrt{\square^3}}{\square} + C = \frac{\quad^2}{\square} + \frac{2\quad\sqrt{\square}}{\square} + C$$