

Calcula la siguiente Integral definida.

$$\int_{-2}^0 (x-2)(x+1) dx$$

$$\begin{aligned} (x-2)(x+1) &= x^2 - x - 2 \\ \int F(x)g(x) dx &= \int F(x) dx \\ &= \int_{-2}^0 x^2 dx - \int_{-2}^0 x dx - \int_{-2}^0 2 dx \end{aligned}$$

$$\int_{-2}^0 x^2 dx = \frac{8}{3}$$

$$\int_{-2}^0 x dx = -2$$

$$\int_{-2}^0 2 dx = 4$$

$$= \frac{8}{3} - (-2) - 4$$

$$= \frac{8}{3} - (-2) - 4 = \frac{2}{3}$$

$$= \frac{2}{3}$$

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Resuelve las siguientes Integrales

$$\begin{aligned} a) \int \frac{x+1}{6} dx &= \frac{1}{6} \cdot \left(\frac{x^2}{2} + x \right) \\ &= \frac{1}{6} \cdot \int x + 1 dx &= \frac{1}{6} \left(\frac{x^2}{2} + x \right) + C \\ &= \frac{1}{6} (\int x dx + \int 1 dx) \end{aligned}$$

$$\int x dx = \frac{x^2}{2}$$

$$\int 1 dx = x$$

$$\begin{aligned} b) \int x^2 - 4x + 3 dx &= \frac{x^3}{3} - 2x^2 + 3x \\ &= \int x^2 dx - \int 4x dx + \int 3 dx \\ \int x^2 dx &= \frac{x^3}{3} \\ \int 4x dx &= 2x^2 \\ \int 3 dx &= 3x \end{aligned}$$

$$\begin{aligned} \int (x^2 - 4x + 3) dx &= \\ \frac{x^3}{3} - 2x^2 + 3x + C \end{aligned}$$

$$c) \int x dx$$

$$= \frac{x^{1+1}}{1+1}$$

$$= \frac{x^2}{2}$$

$$= \frac{x^2}{2} + C$$

$$= \int x dx = \frac{x^2}{2} + C$$