Integral definido

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Enunciado

Calcule o integral definido

$$\int_{\pi}^{2\,\pi} (\cos x + 4x)\, dx.$$

Sugestion

Utilize a fórmula ... .

Resolution

Calculando o integral

$$\int_{\pi}^{2\,\pi} (\cos x + 4x)\, dx,$$

obtém-se

$$\int_{\pi}^{2\,\pi} (\cos x + 4x)\, dx = \left[\sin x + \frac{4x^2}{2}\right]_{\pi}^{2\,\pi}$$

$$= \sin(2\,\pi) + \frac{4 * 2\,\pi^2}{2} - \sin\pi - \frac{4 * \pi^2}{2} = \sin(2\,\pi) - \sin\pi + 6\,\pi^2.$$

Result

$$\int_{\pi}^{2\,\pi} (\cos x + 4x)\, dx$$

$$= \sin(2\,\pi) - \sin\pi + 6\,\pi^2.$$

Obs

Random choices