

Definite integral example

Calculate definite integral of function for border values

$$\int_{-1}^3 (x^2 + 2) \cdot dx$$

$$\begin{aligned} \int_{-1}^3 x^2 \cdot dx + \int_{-1}^3 2 \cdot dx &= \left[\frac{x^3}{3} \right]_{-1}^3 + [2 \cdot x]_{-1}^3 = \left(\frac{3^3}{3} - \frac{(-1)^3}{3} \right) + (2 \cdot 3 - 2 \cdot (-1)) = \\ &= \frac{27}{3} + \frac{1}{3} + 6 + 2 = 9 + \frac{1}{3} + 8 = 17\frac{1}{3} = \frac{52}{3} \end{aligned}$$