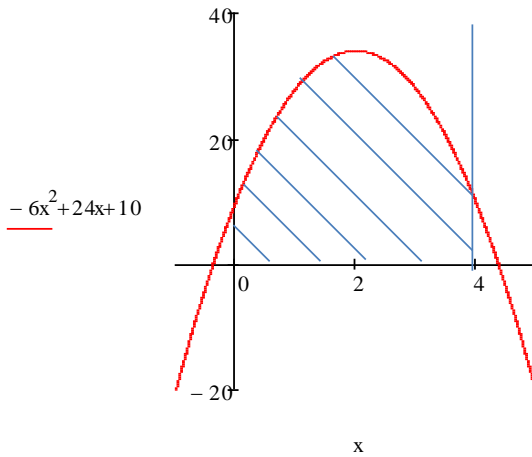


Calculate the area bounded by the curve $y = (-)6x^2 + 24x + 10$, the x-axis and the ordinates $x = 0$ and $x = 4$.

Solution



$$S = \int_a^b f(x)dx = F(b) - F(a)$$

$$\begin{aligned} S &= \int_0^4 (-6x^2 + 24x + 10)dx = -2x^3 + 12x^2 + 10x \Big|_0^4 = \\ &= -2 * 4^3 + 12 * 4^2 + 10 * 4 - 0 = -128 + 192 + 40 = 104 \end{aligned}$$

Answer: 104 square units.