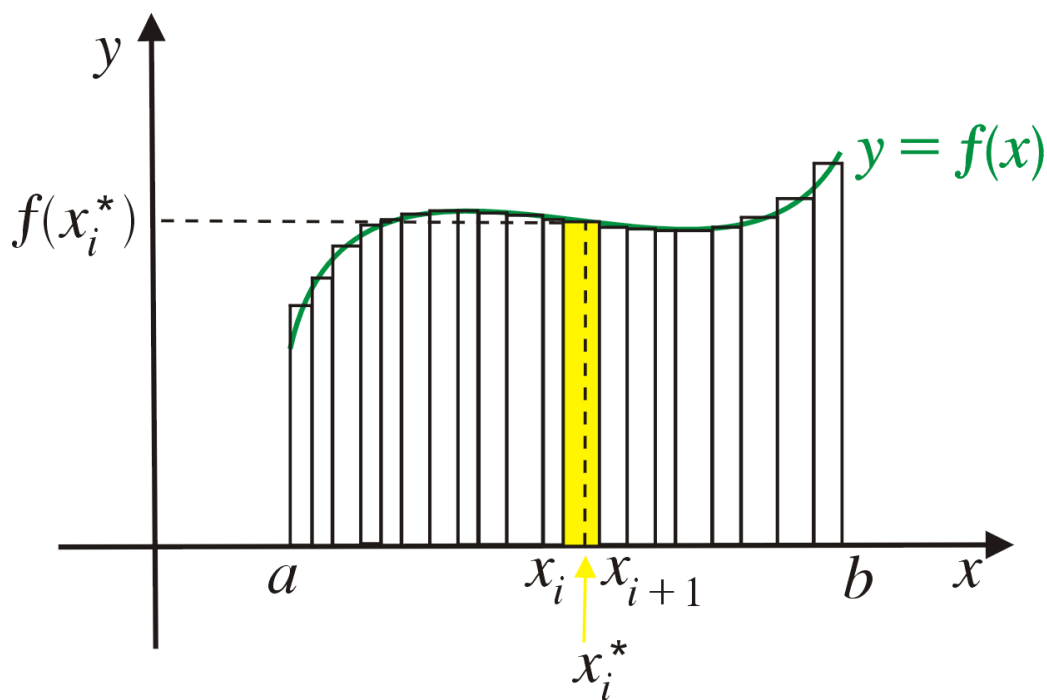


POLE TRAPEZU KRZYWOLINIOWEGO



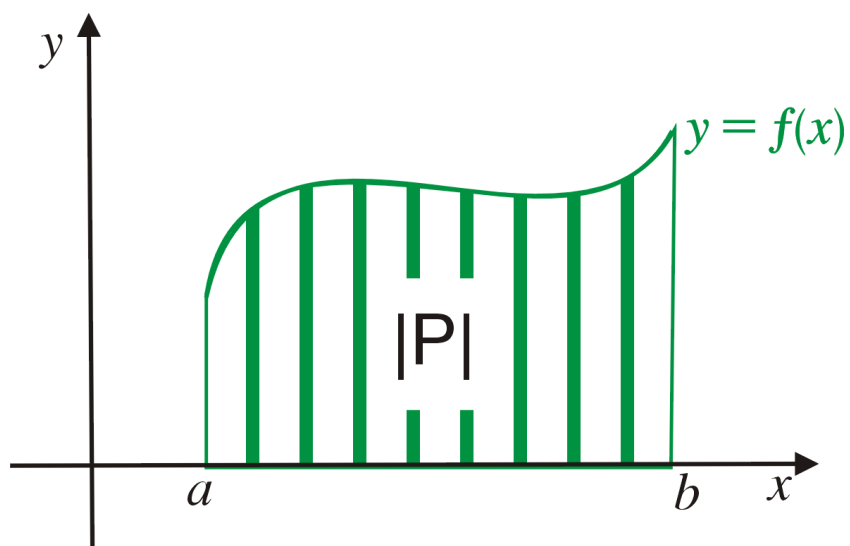
$$a = x_0 < x_1 < x_2 < \dots < x_i < x_{i+1} < \dots < x_n = b$$

$$\Delta x_i = x_{i+1} - x_i$$

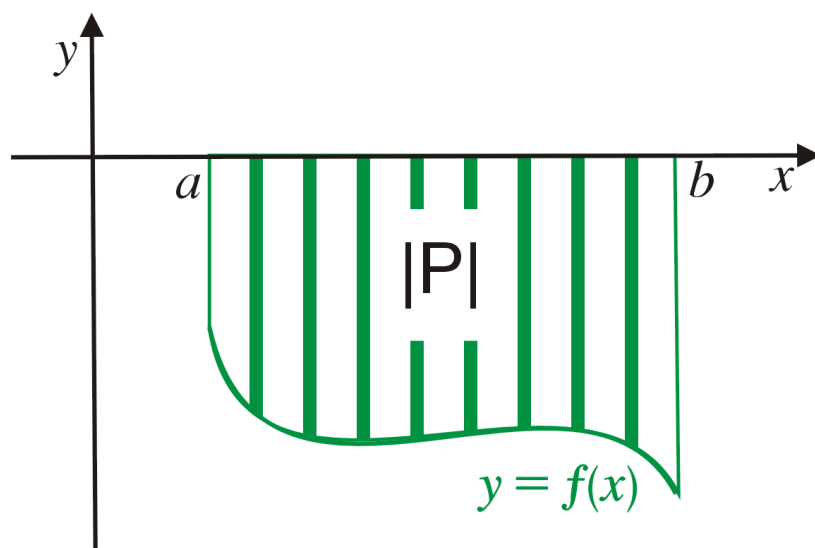
$$x_i^* \in (x_i, x_{i+1})$$

$|P|$ – Pole trapezu krzywoliniowego

$$|P| \approx \sum_{i=0}^{n-1} f(x_i^*) \cdot \Delta x_i$$



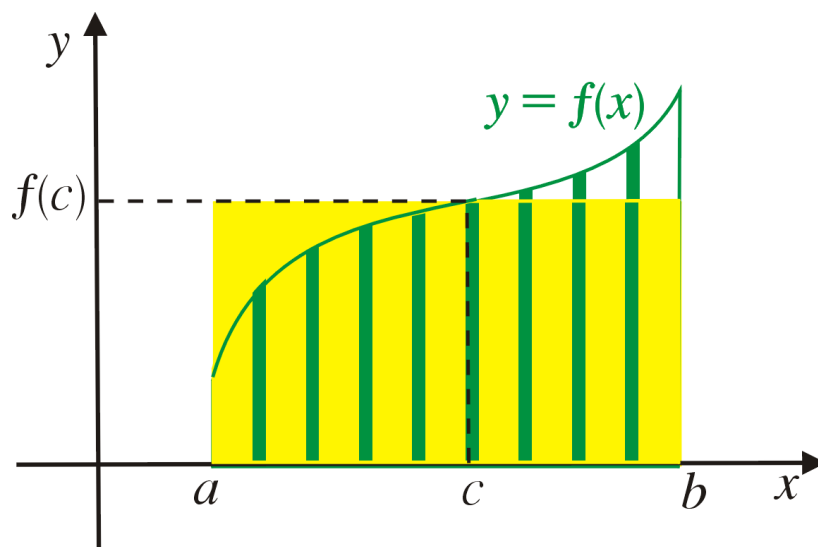
$$\int_a^b f(x) \, dx = |P|.$$

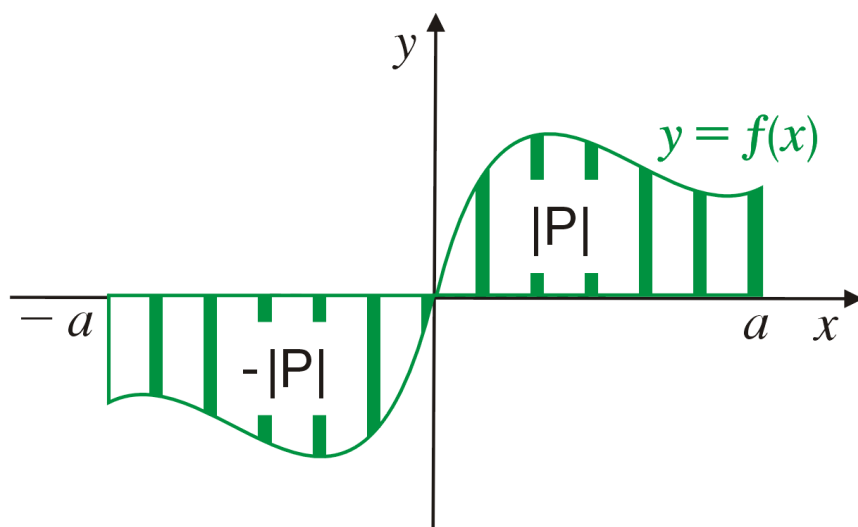


$$\int_a^b f(x) \, dx = -|P|.$$

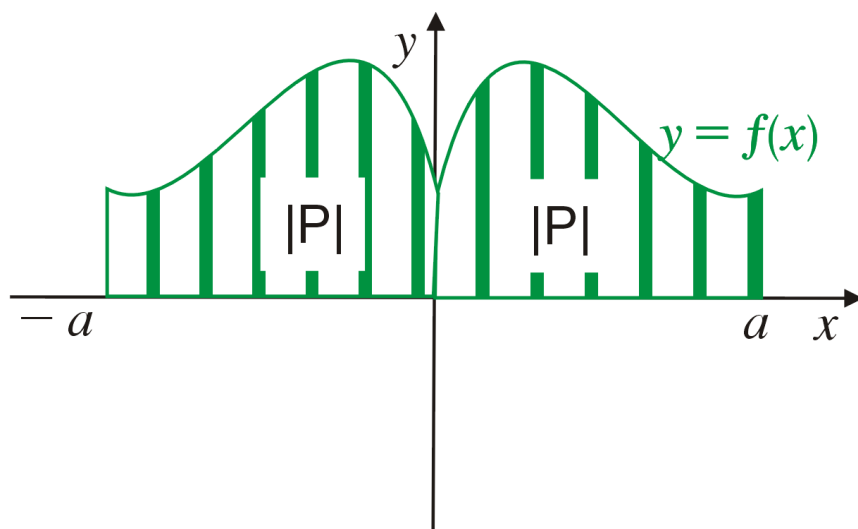
TWIERDZENIE O WARTOŚCI ŚREDNIEJ

$$\int_a^b f(x) dx = f(c) (b - a).$$





$$\int_{-a}^a f(x) dx = 0.$$



$$\int_{-a}^a f(x) dx = 2 \cdot \int_0^a f(x) dx.$$