

Sudé a liché fce

Sudá

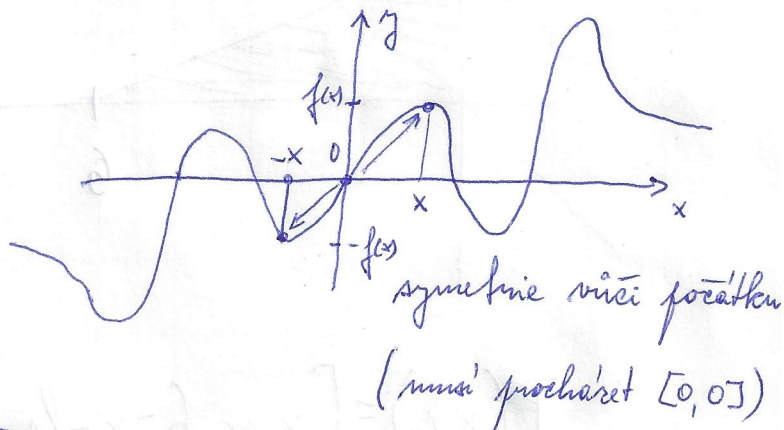
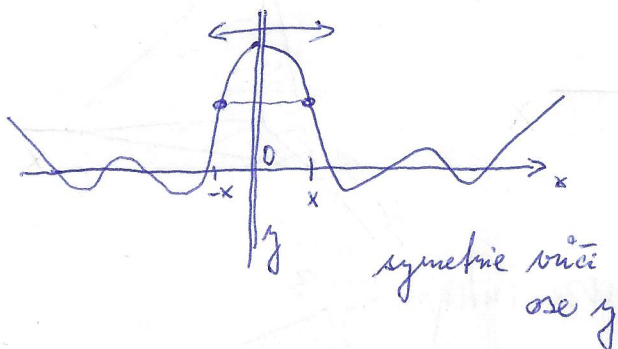
Lichá

Def:

$$f(x) = f(-x)$$

$$f(x) = -f(-x) \quad \forall x \in \mathbb{R}!$$

Geometrický význam



Př:

$$x^2, x^4, x^{2l}, \cos(x)$$

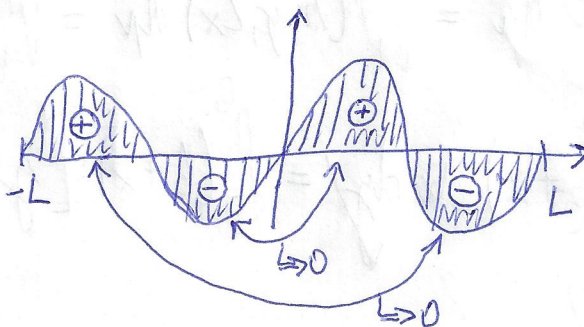
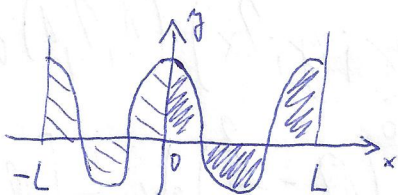
Př:

$$x^1, x^3, x^{2l+1}, \sin(x) \text{ atd}$$

Integrál přes sym. interval

$$\int_{-L}^L f(x) dx = 2 \int_0^L f(x) dx$$

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



Vlastnosti

- lichá · lichá = sudá
- lichá · sudá = lichá
- sudá · sudá = sudá

Příklady:

Je-li $f(x)$ sudá, čemu se rovná $\int_{-L}^L f(x) dx$?
 Je-li $f(x)$ lichá, čemu se rovná $\int_{-L}^L f(x) dx$?

$$\int_{-L}^L f(x) \sin(x) dx \quad \int_{-L}^L f(x) \cos(x) dx$$