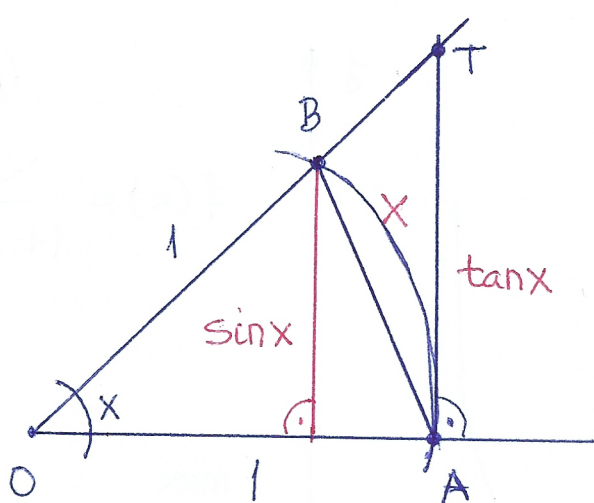


①



Area of triangle

$$OAB < OAB < OAT$$

Area of triangle
OAT

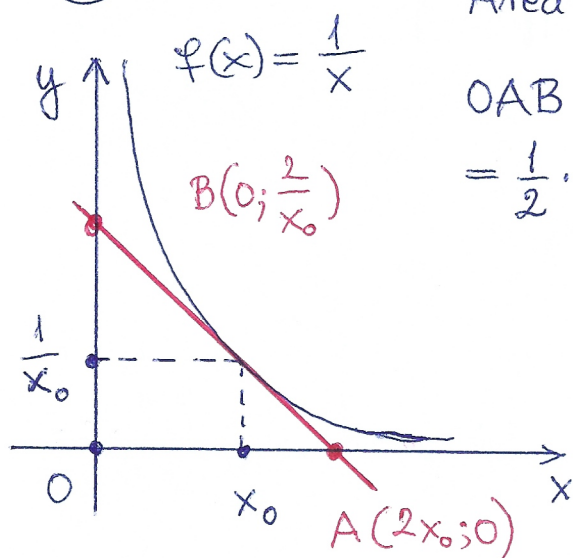
Area of arc

$$\frac{1}{2} \sin x < \frac{1}{2} x < \frac{1}{2} \tan x$$

$$1 < \frac{x}{\sin x} < \frac{1}{\cos x}$$

$$\cos x < \frac{\sin x}{x} < 1$$

②



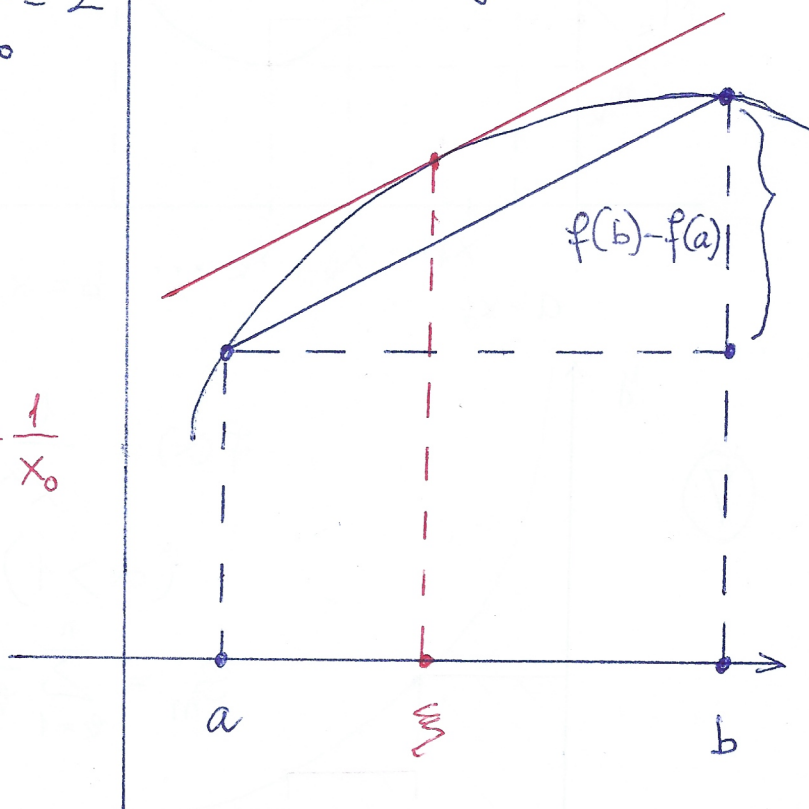
Area of triangle

$$OAB = \frac{1}{2} \cdot 2x_0 \cdot \frac{2}{x_0} = 2$$

$$\text{Tangent line: } y = -\frac{1}{x_0^2} (x - x_0) + \frac{1}{x_0}$$

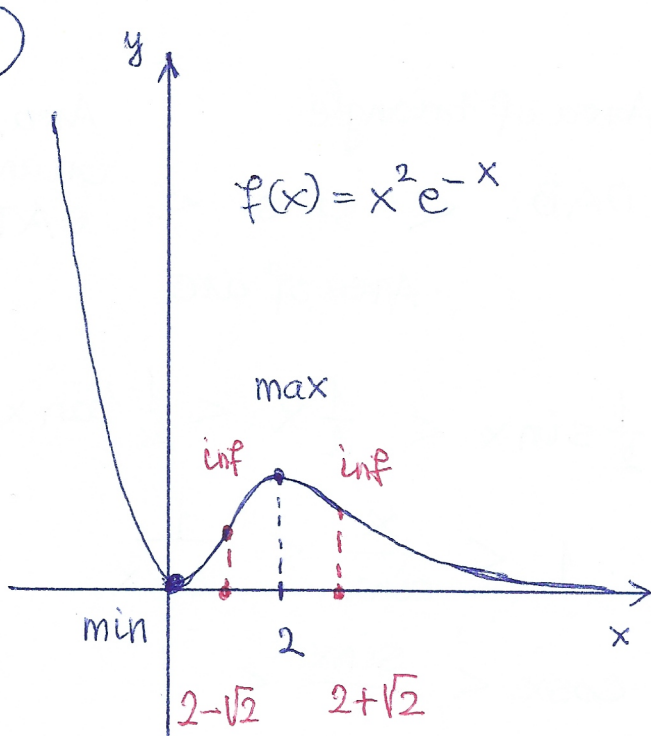
③

Lagrange:



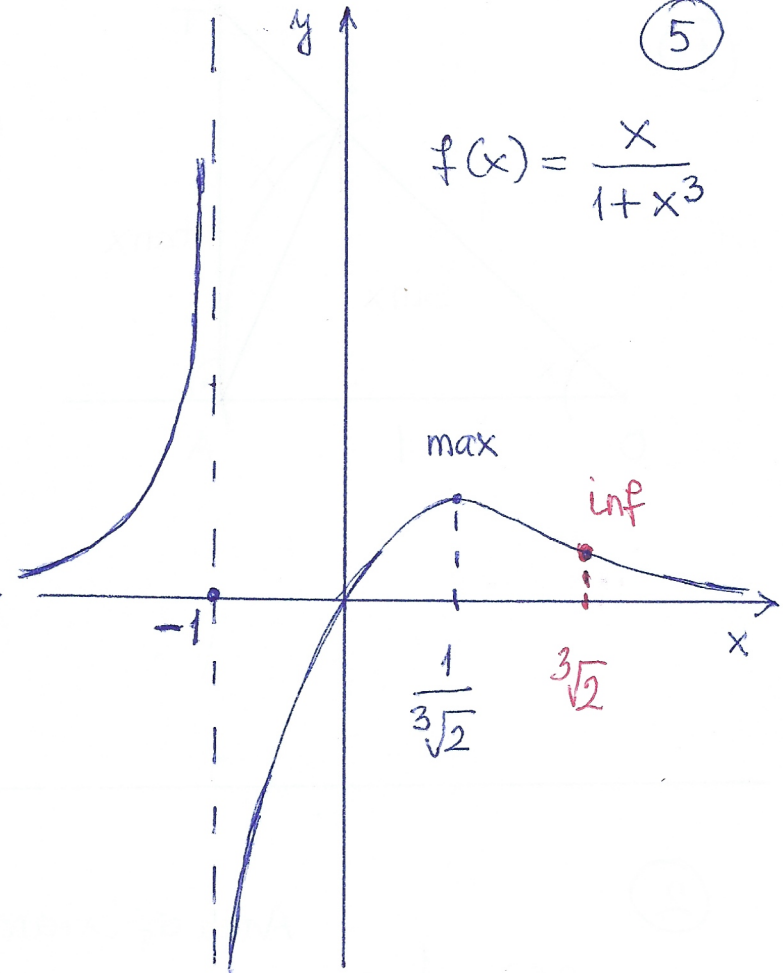
$$\frac{f(b) - f(a)}{b - a} = f'(\xi)$$

④

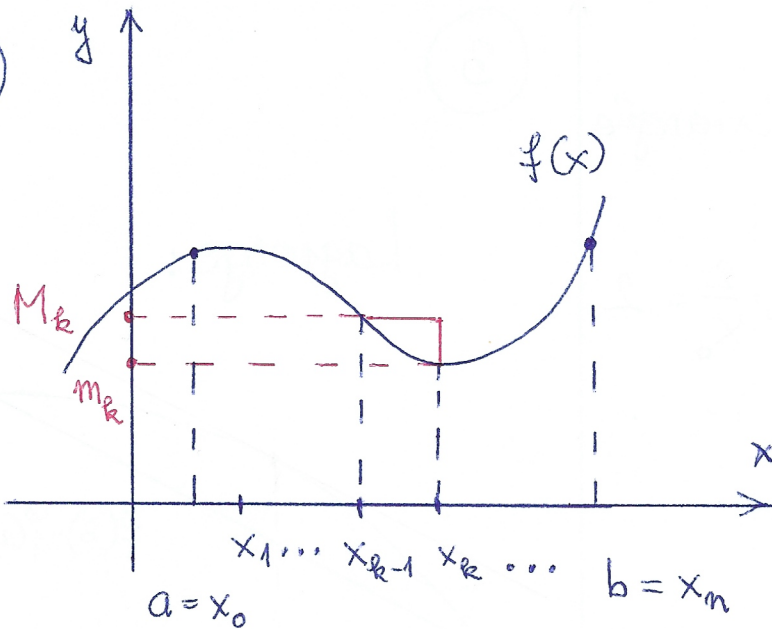


⑤

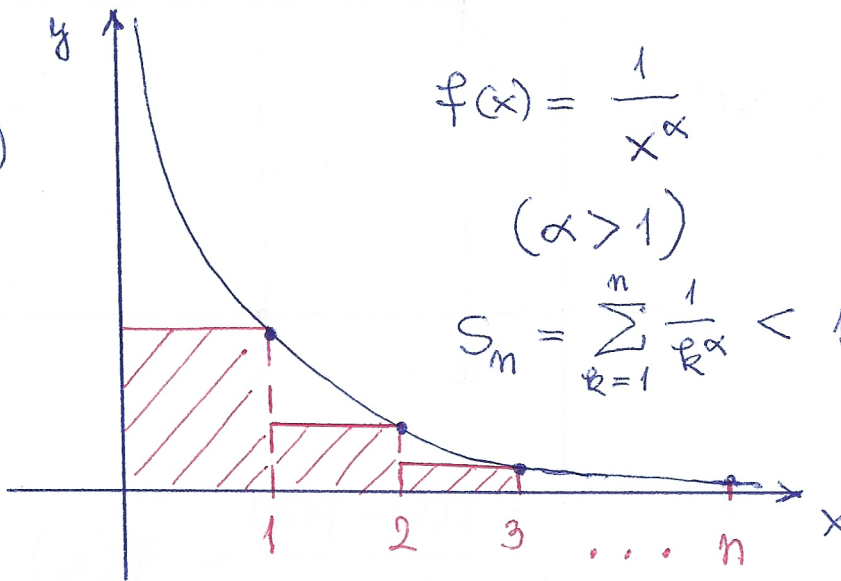
$$f(x) = \frac{x}{1+x^3}$$



⑥



⑦



$$f(x) = \frac{1}{x^\alpha}$$

$$(\alpha > 1)$$

$$S_n = \sum_{k=1}^n \frac{1}{k^\alpha} < 1 + \int_1^n \frac{1}{x^\alpha} dx$$