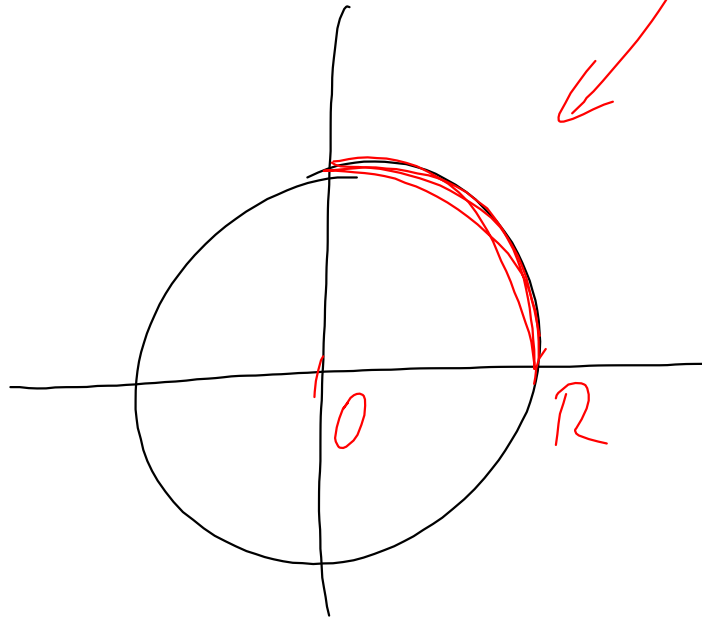
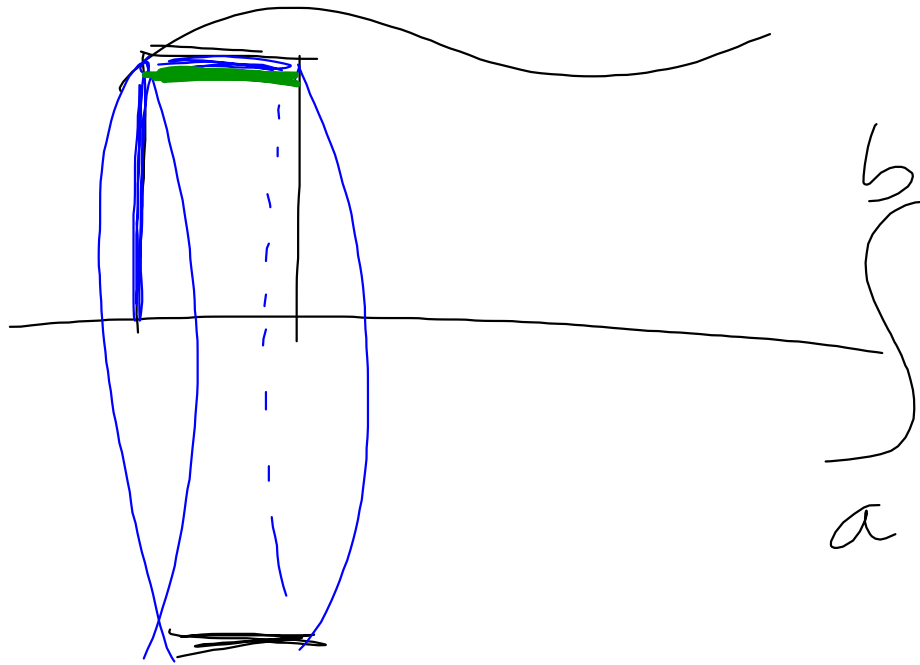


$$f'(c) = \frac{f(b) - f(a)}{b - a}$$

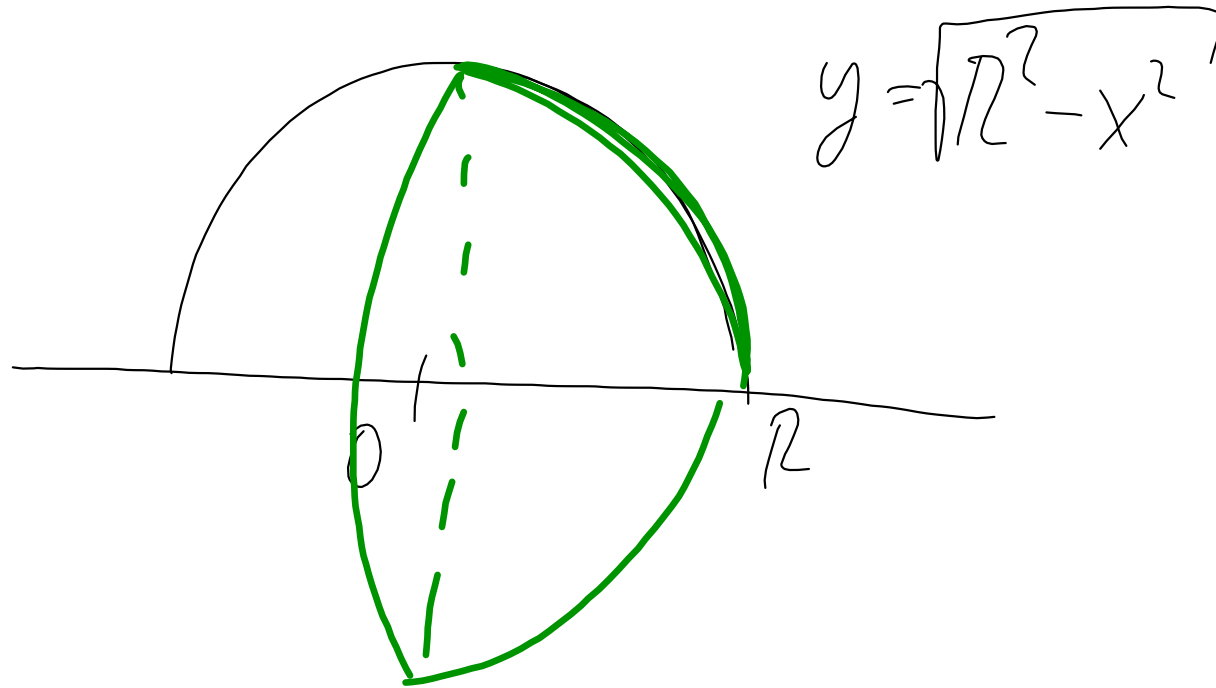
$$x^2 + y^2 = R^2 \Rightarrow y = \pm \sqrt{R^2 - x^2}$$

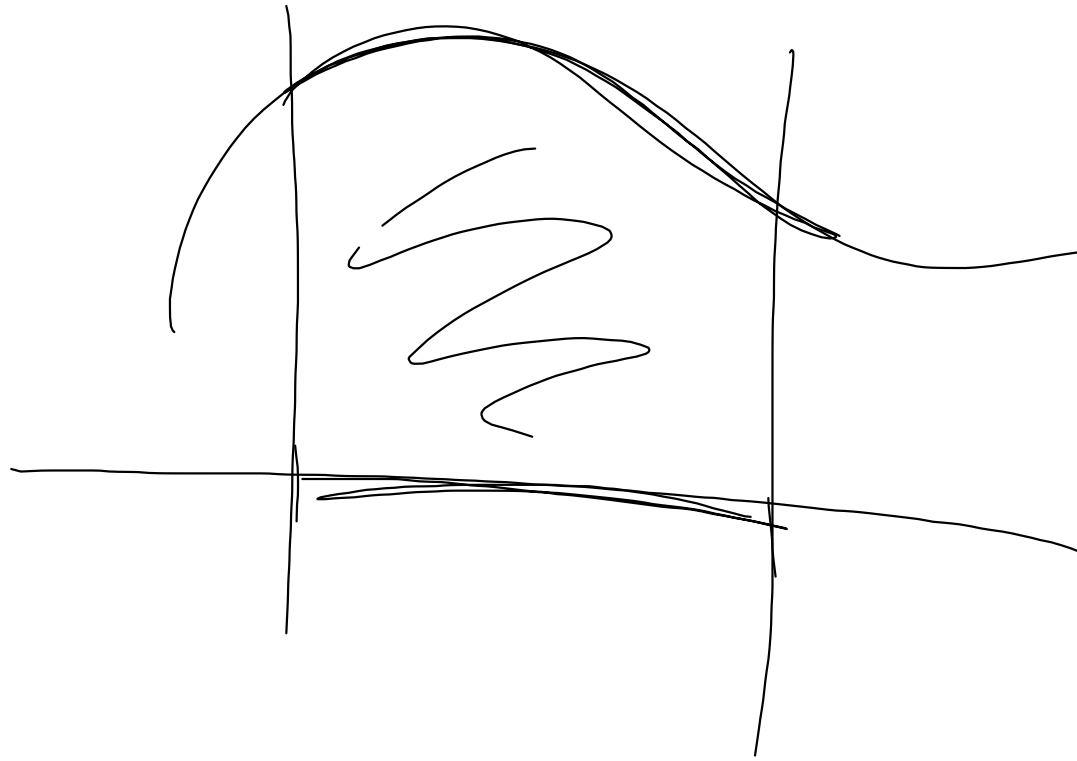


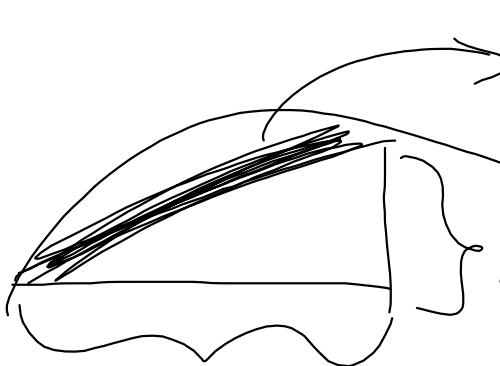
$$1 + \frac{x^2}{R^2 - x^2} = \frac{\cancel{R^2} - \cancel{x^2} + \cancel{x^2}}{R^2 - x^2}$$



$$\pi a^2 \cdot \Delta x$$
$$\pi \cdot \int_a^b f(x) \cdot dx$$







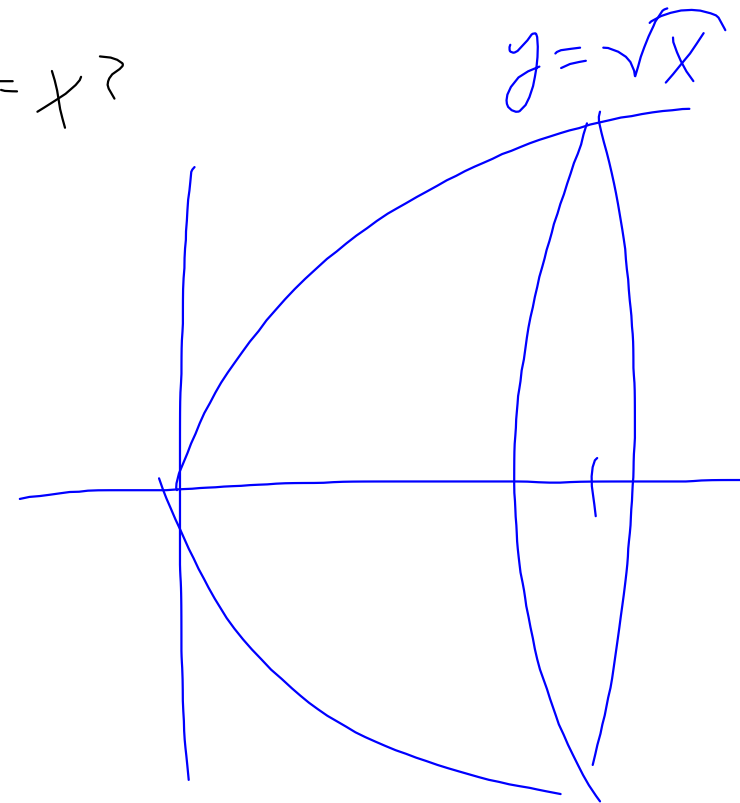
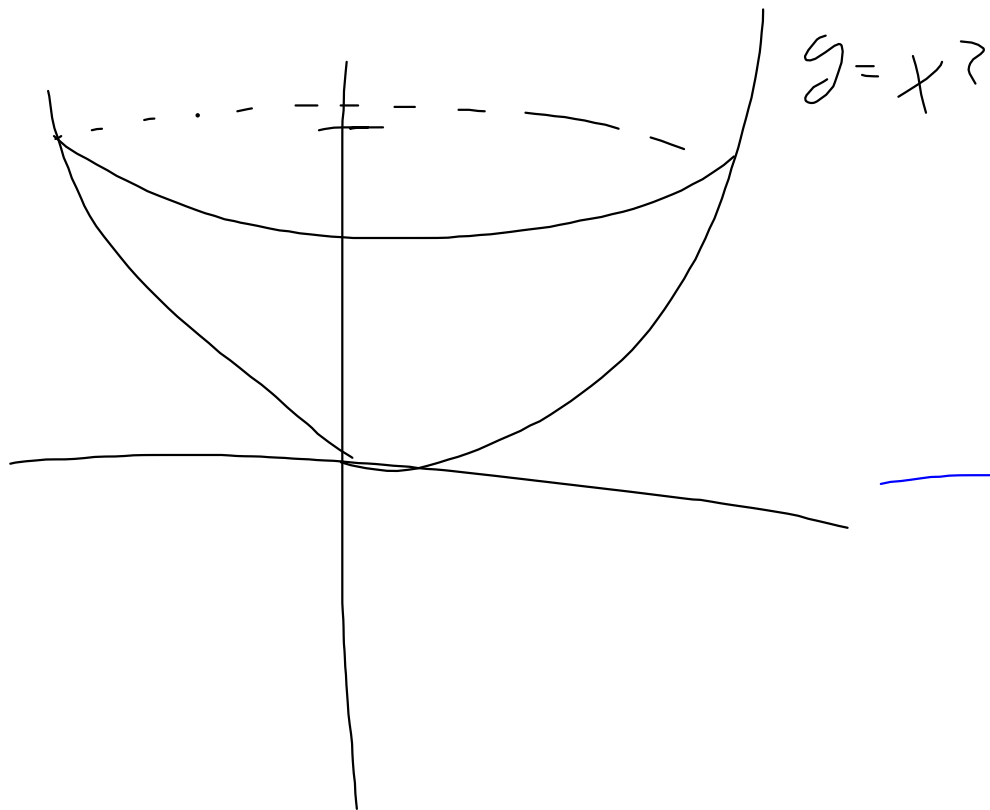
A hand-drawn diagram illustrating a curve element. A curve is shown with a small segment highlighted. A right triangle is drawn with the curve segment as the hypotenuse. The horizontal leg is labeled $dx = \varphi'(t) dt$ and the vertical leg is labeled $dy = \psi'(t) dt$. A large arrow points from the hypotenuse to the expression $\sqrt{\varphi'^2 dt^2 + \psi'^2 dt^2}$.

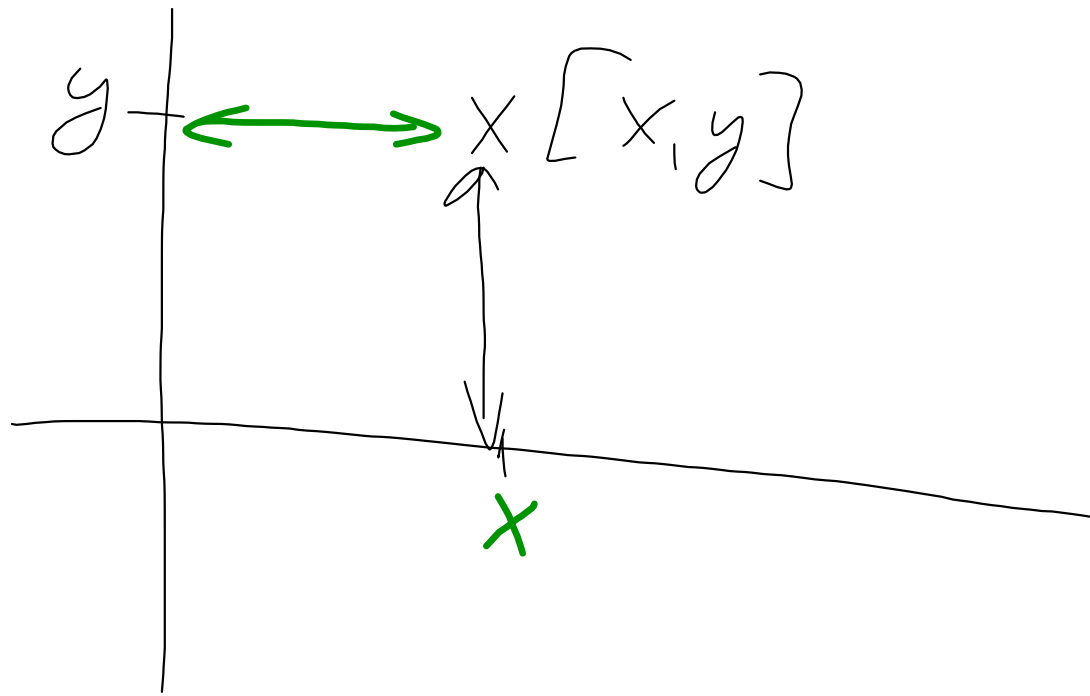
$$\sqrt{\varphi'^2 dt^2 + \psi'^2 dt^2}$$
$$dy = \psi'(t) dt$$
$$dx = \varphi'(t) dt$$

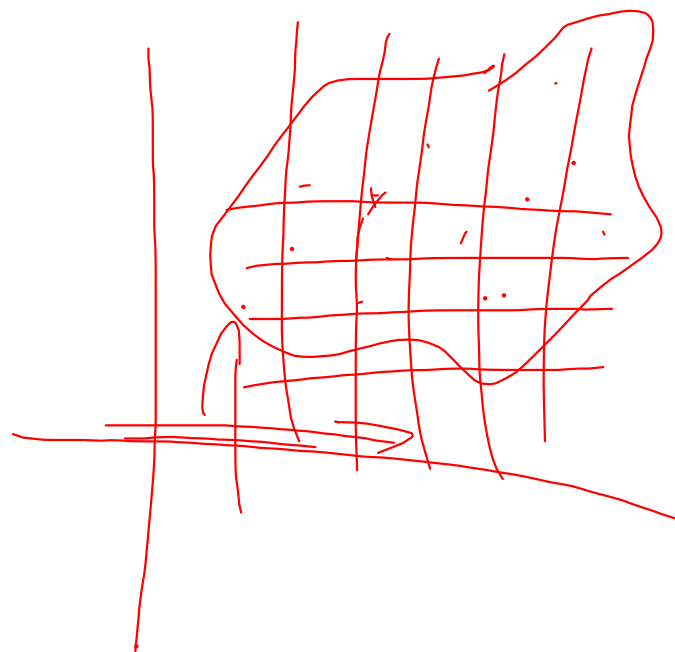
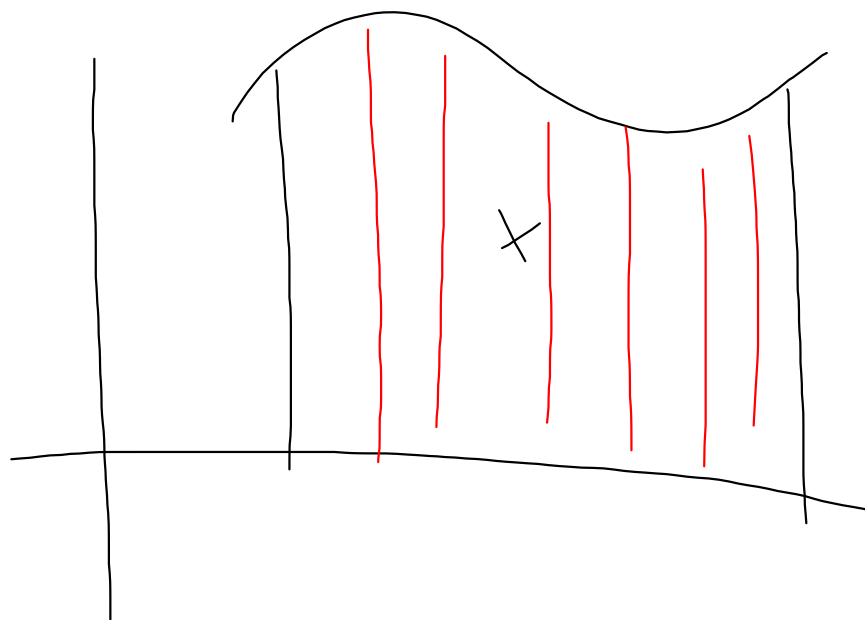
$$y = f(x)$$

$$x = t$$

$$y = f(t)$$



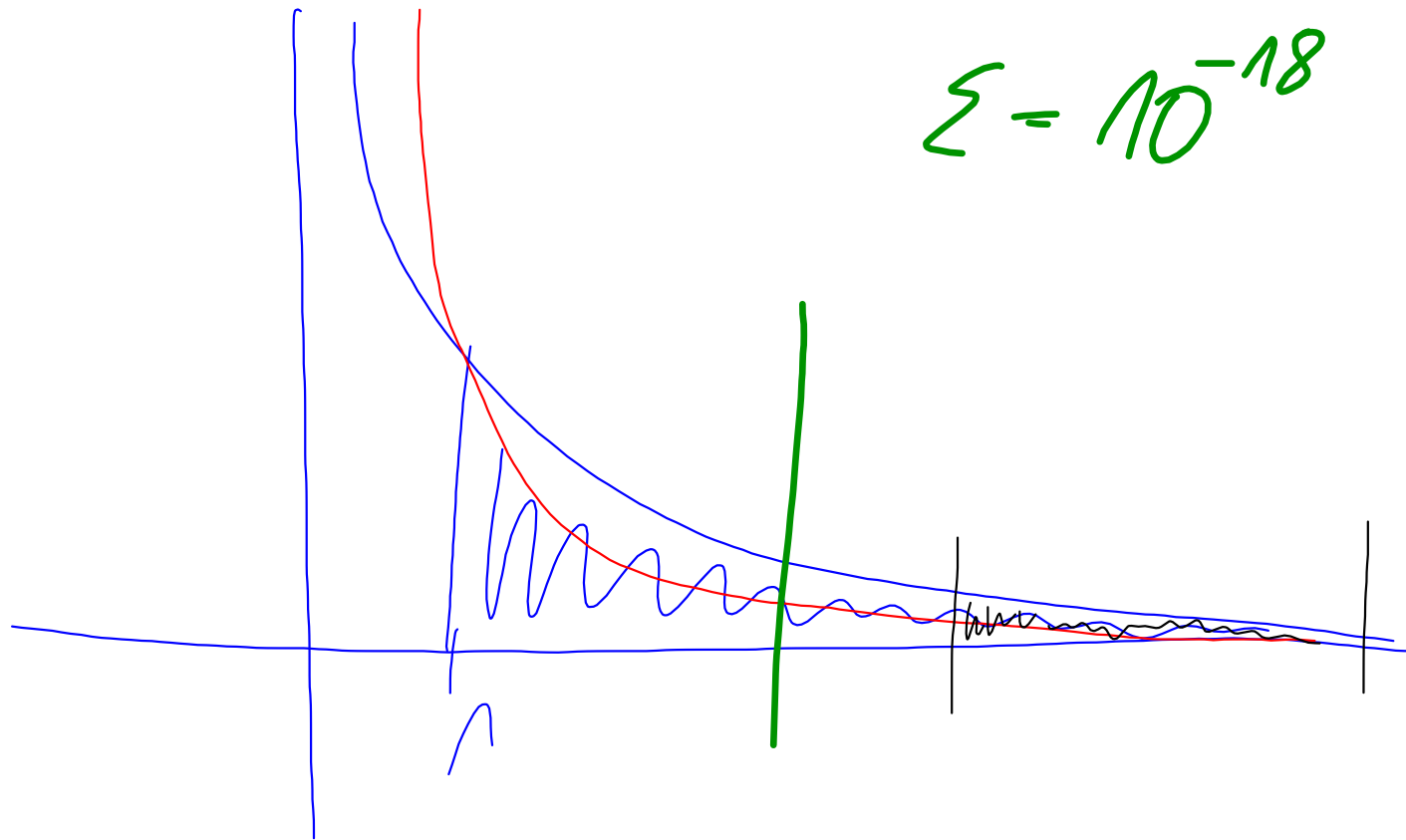




$$\int_{-\infty}^{\infty} = \lim_{[a,b] \rightarrow [-\infty, \infty]} \int_a^b$$

$$\int_0^{\infty} \frac{1}{1+x^2} dx = [\arctan x]_0^{\infty} =$$
$$= \left(\lim_{x \rightarrow \infty} \arctan x \right) - \left(\arctan 0 \right) = \dots$$

$$\frac{t^{-\alpha+1}}{-\alpha+1}$$



$$\frac{\infty}{\infty} = 5$$

$$\frac{f}{1 - x^\alpha}$$

