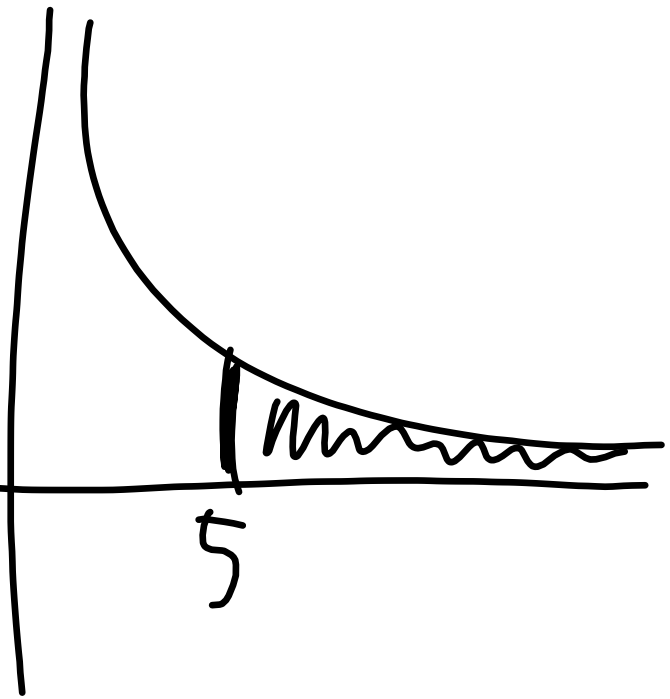
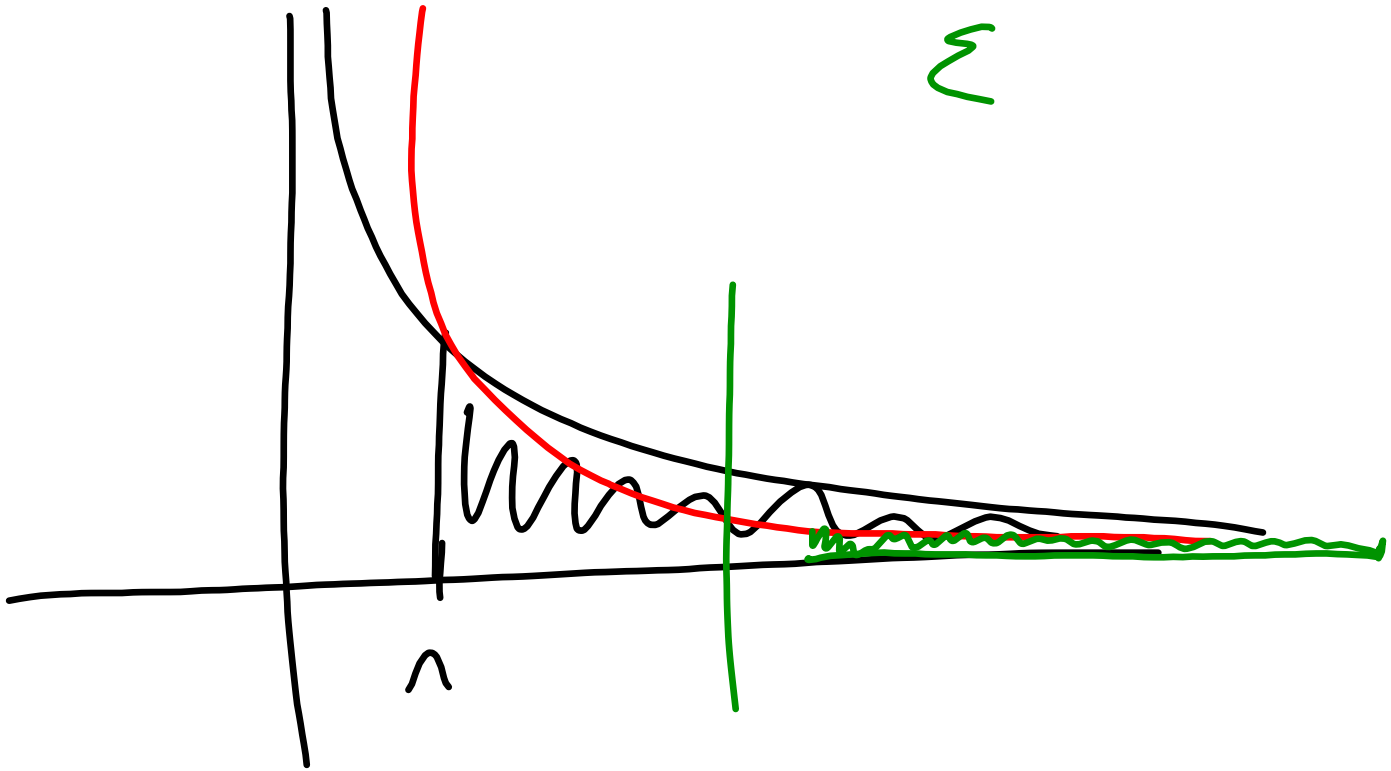
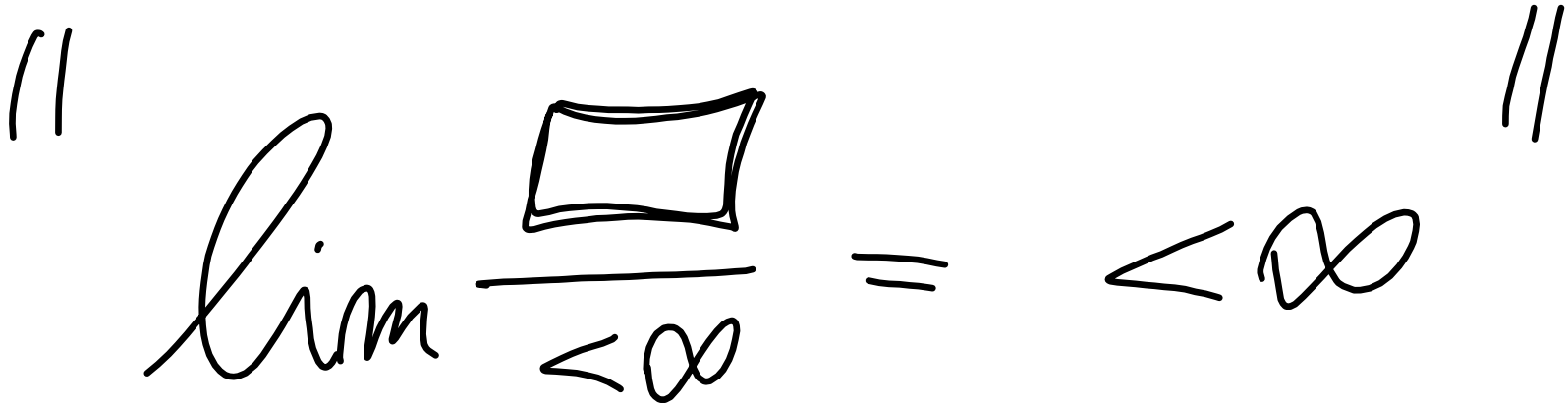
$$\int_5^\infty \frac{1}{x^\alpha}\,dx$$

$$= \lim_{b\to\infty} \int_5^b \frac{1}{x^\alpha}\,dx$$



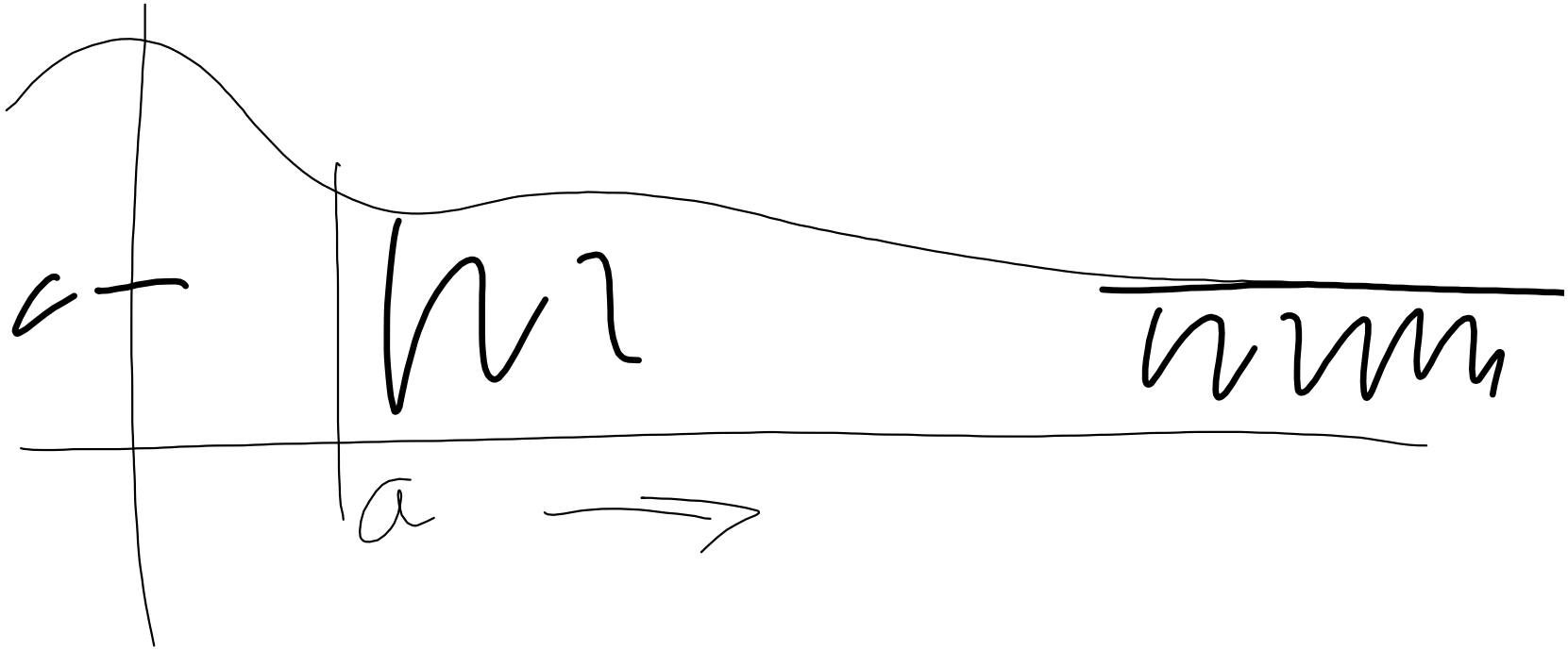
$$\int_a^b = -\int_b^a$$

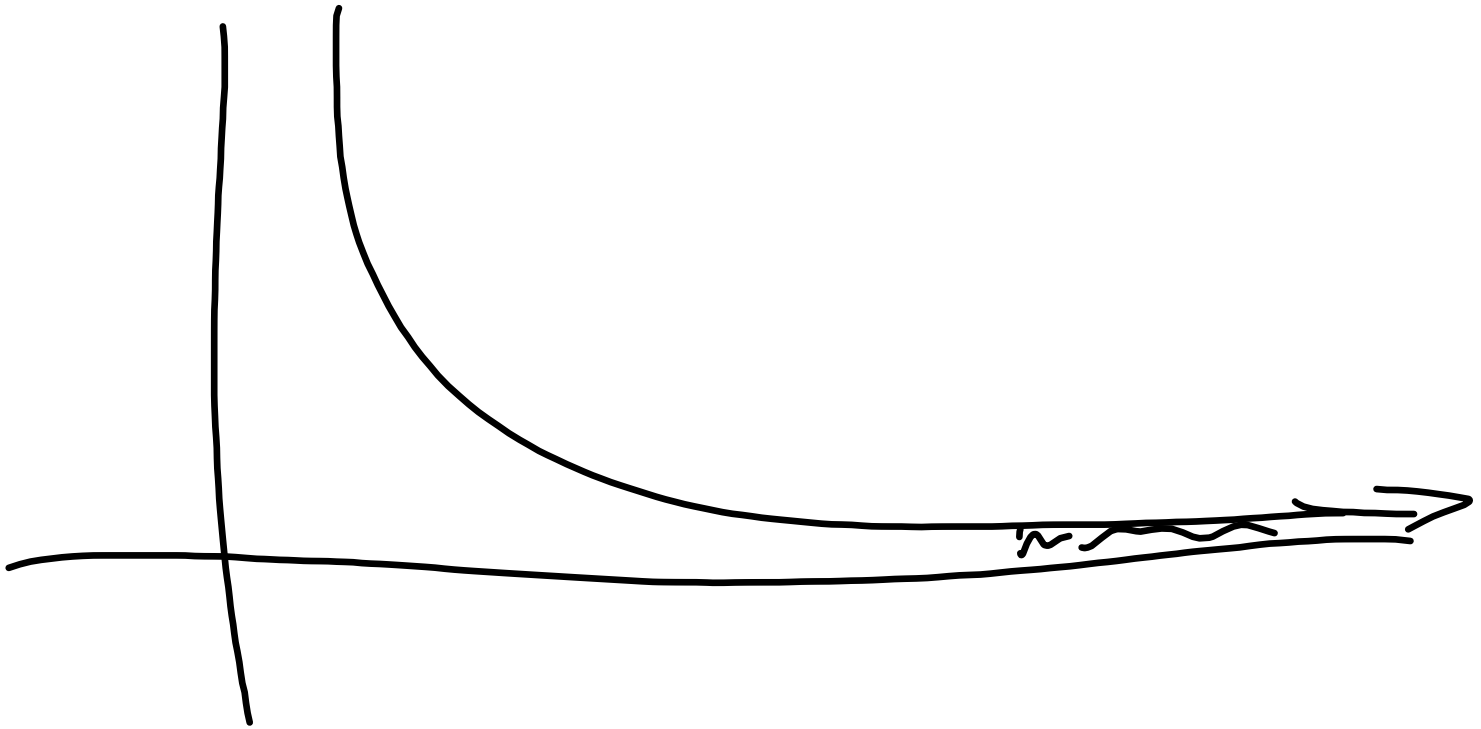

ε
n

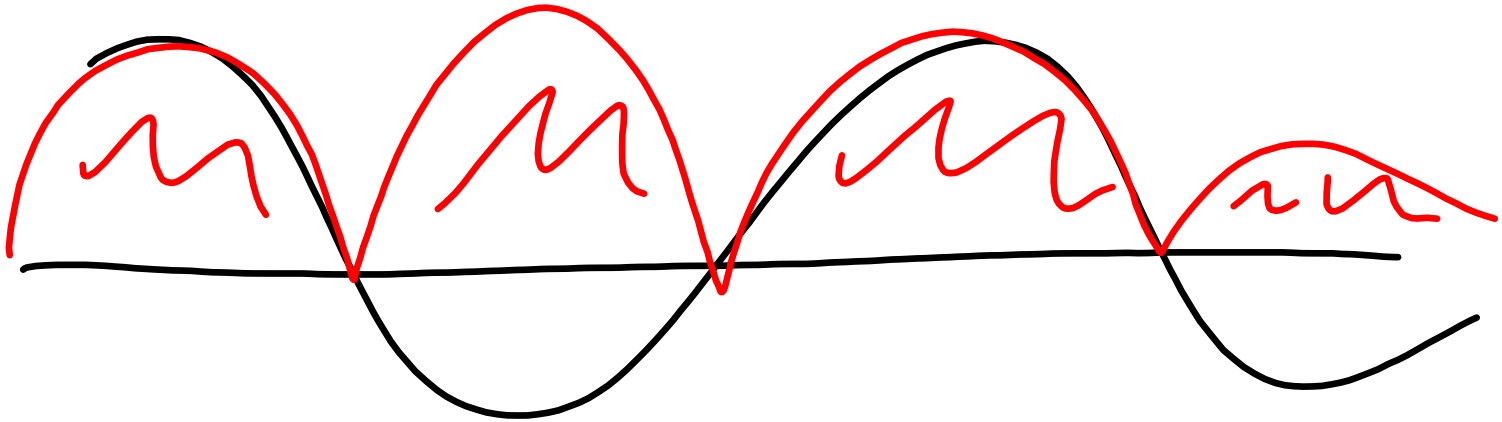


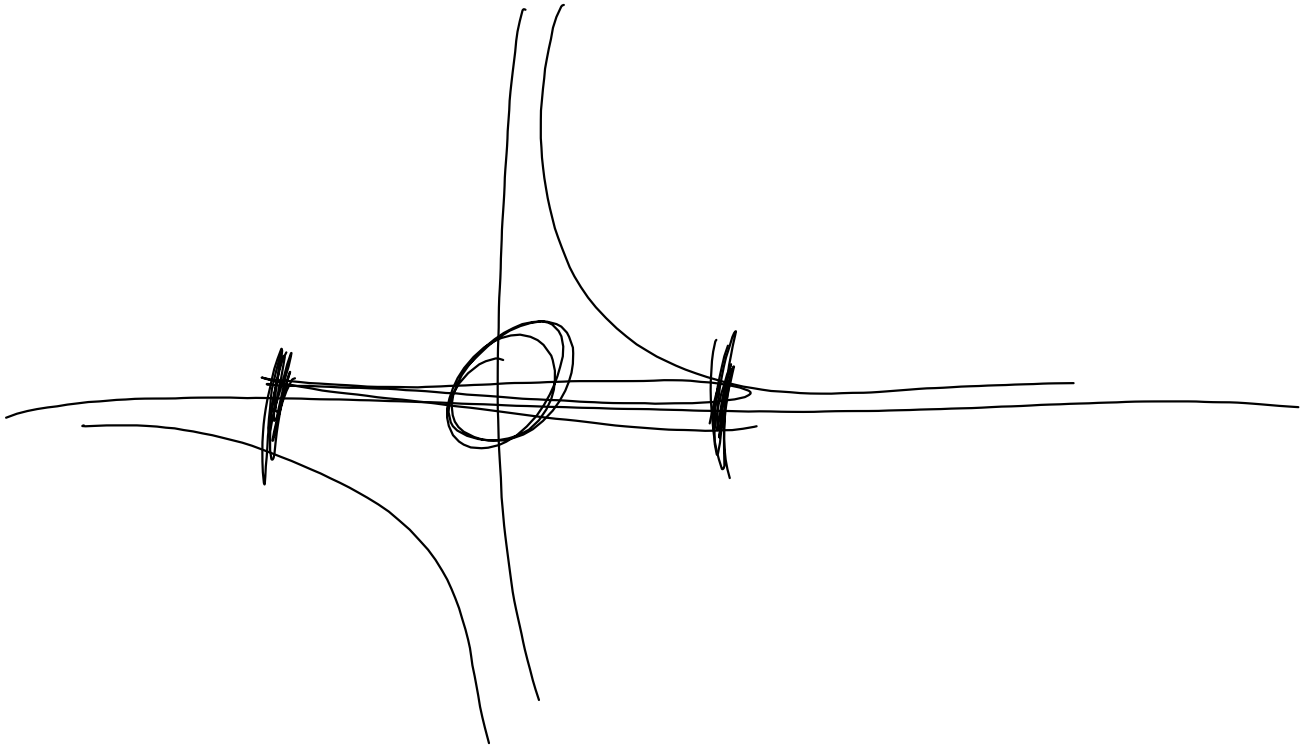
$$\lim \frac{\square}{\infty} = > 0$$

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


a







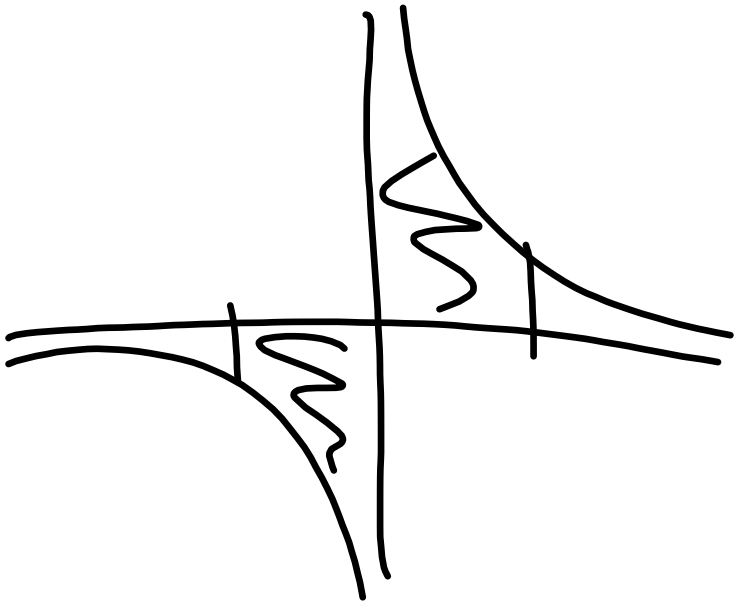
$$\int_{-1}^{1} \frac{1}{x}\,dx = \int_{-1}^{0} \frac{1}{x}\,dx + \int_{0}^{1} \frac{1}{x}\,dx$$

$$\int_{-1}^{1} \frac{1}{x}\,dx = \Big[\ln|x|\Big]_{-1}^{1} = \ln 1 - \ln 1 = 0$$

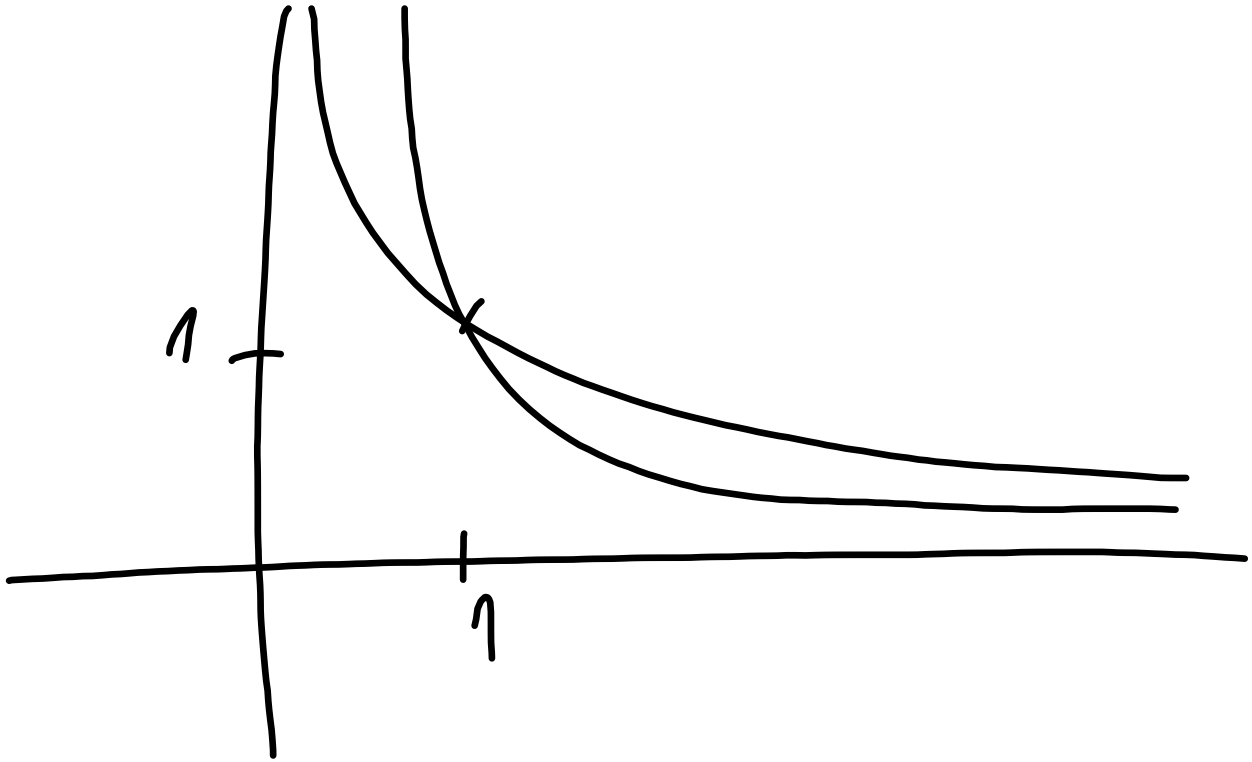
$$\int_{-1}^{1} \frac{1}{x}\,dx = \int_{-1}^{0} \frac{1}{x}\,dx + \int_{0}^{1} \frac{1}{x}\,dx = \Big[\ln|x|\Big]_{-1}^{0} + \Big[\ln|x|\Big]_{0}^{1} =$$

$$= \lim_{x\to 0^-} \ln|x| - \ln|-1| + \ln|1| - \lim_{x\to 0^+} \ln|x| =$$

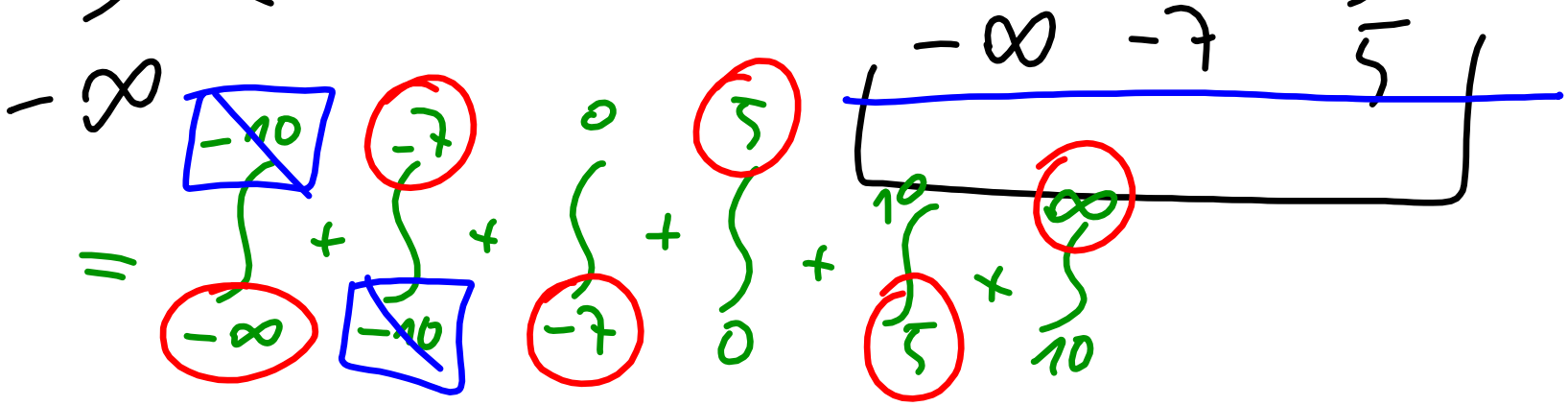
$$= -\infty - 0 + 0 - (-\infty)$$

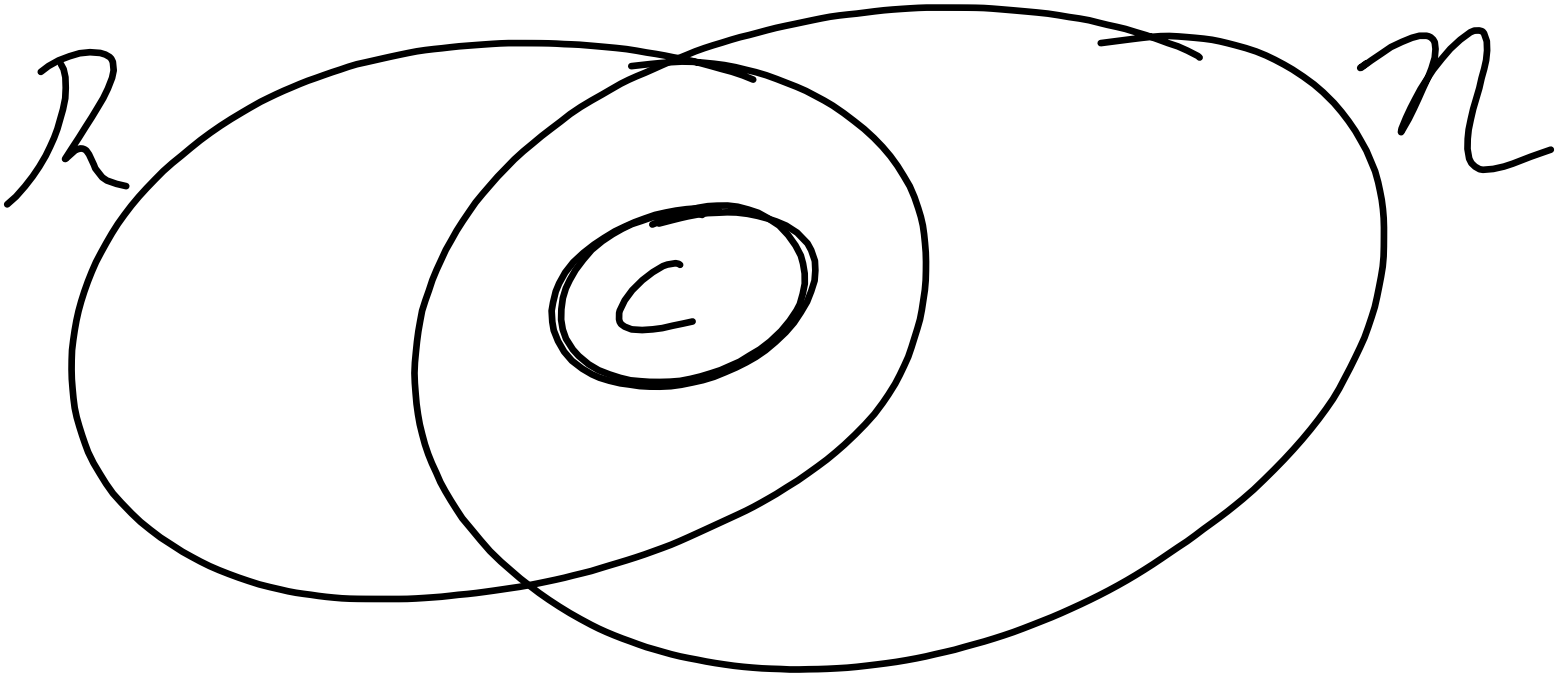


$$\int_{-1}^{1} \frac{1}{x^2}\,dx = \left[\frac{x^{-1}}{-1}\right]_{-1}^{1} = -1-1=-2$$

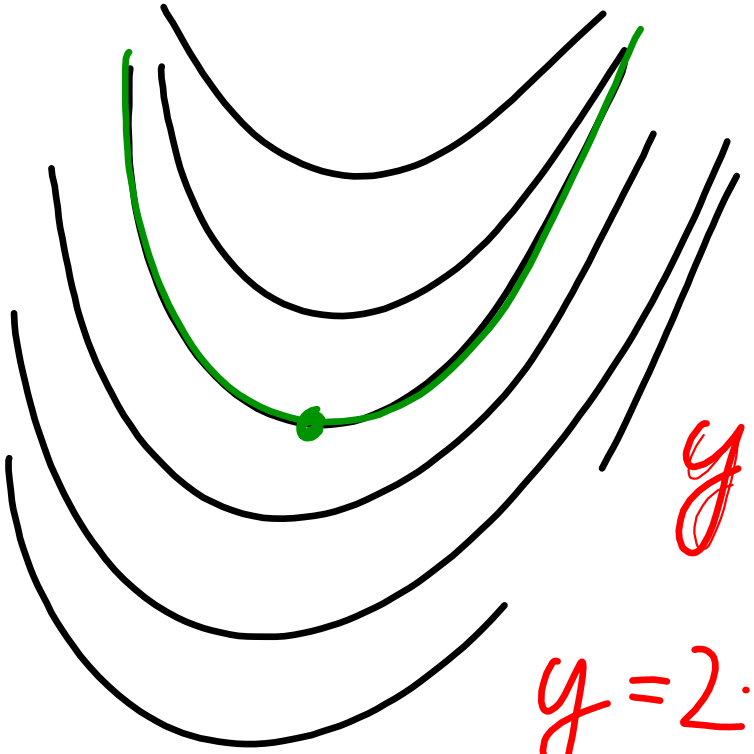

1
1

$$\int_{-\infty}^{\infty} \frac{2x}{(x-5)\cdot(x+7)}\,dx = \int_{-\infty}^{-7} + \int_{-7}^{5} + \int_{5}^{\infty}$$




R
C
N

$x^2 + C$



$y(0) = 1$

$y' = 2x$

$y = 2 \cdot \frac{x^2}{2} + C$

$$y(0)=1 \quad , \quad y'(0)=2$$

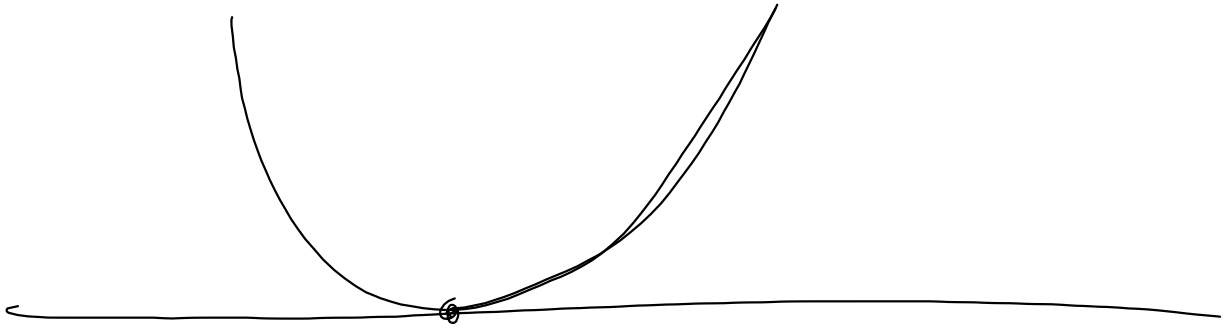
$$y(0)=1 \quad , \quad y(1)=5$$

$$a \cdot \sin x + b \cdot \cos x$$

$y(x)$ ODR

$y(x_1, x_2, x_3)$ PDR $\frac{\partial y}{\partial x_1}$

$$\frac{\partial(t^2 \cdot x^3)}{\partial t} = x^3 \cdot 2t$$



$y = f(x)$

$g(y) = f(x)$