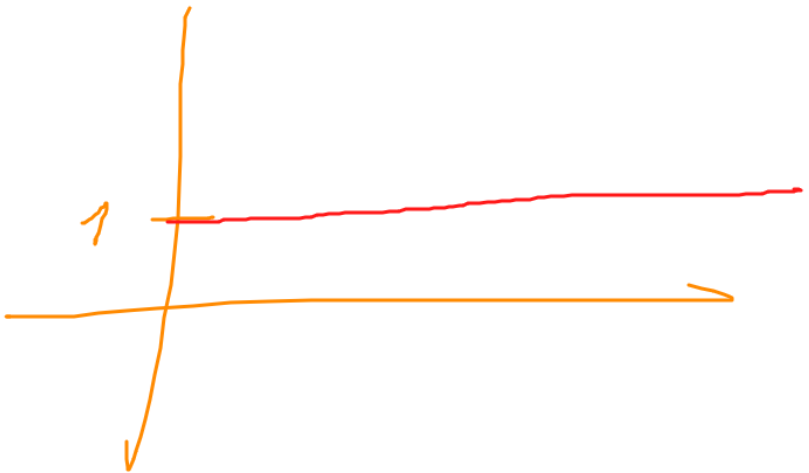
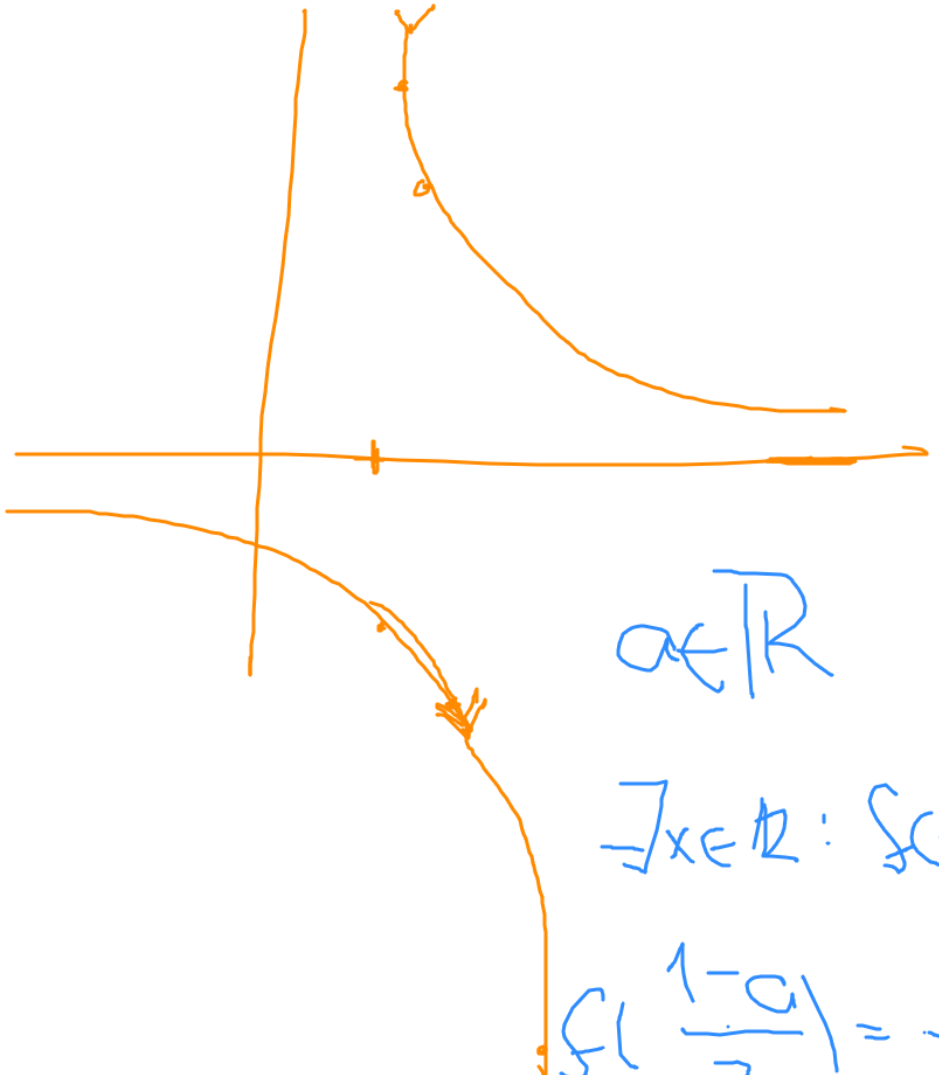




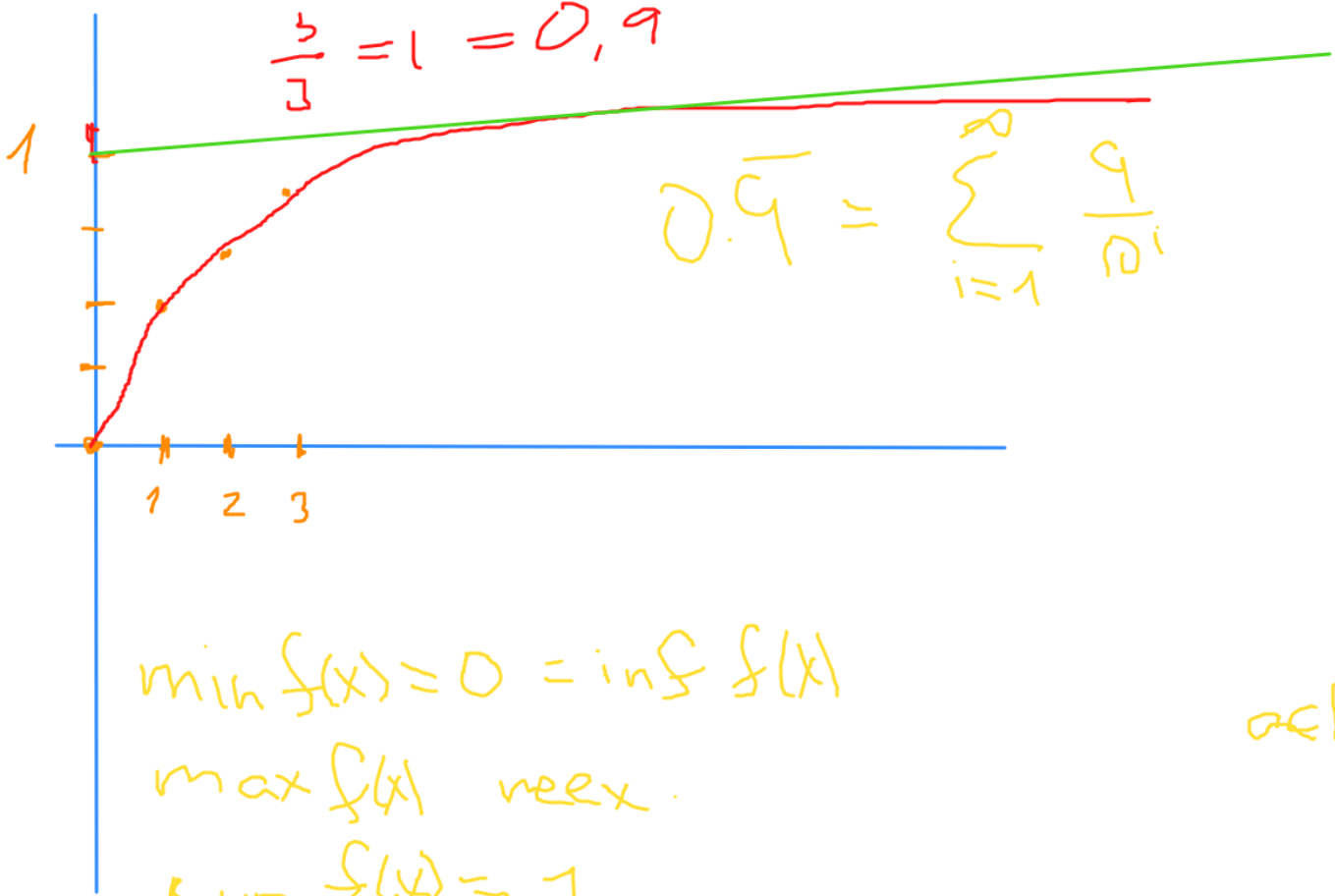
$a \in \mathbb{R}$

$\exists x \in \mathbb{R} : f(x) = a$

$f\left(\frac{1-a}{2}\right) = \dots > a$

$\frac{1}{3} = (0,\overline{3})$ $\quad / \cdot 3$

$\frac{3}{3} = 1 = 0,\overline{9}$



$$0.\overline{9} = \sum_{i=1}^{\infty} \frac{9}{10^i}$$

$$\min f(x) = 0 = \inf f(x)$$

$\max f(x)$ nexx.

$\sup f(x) = 1$

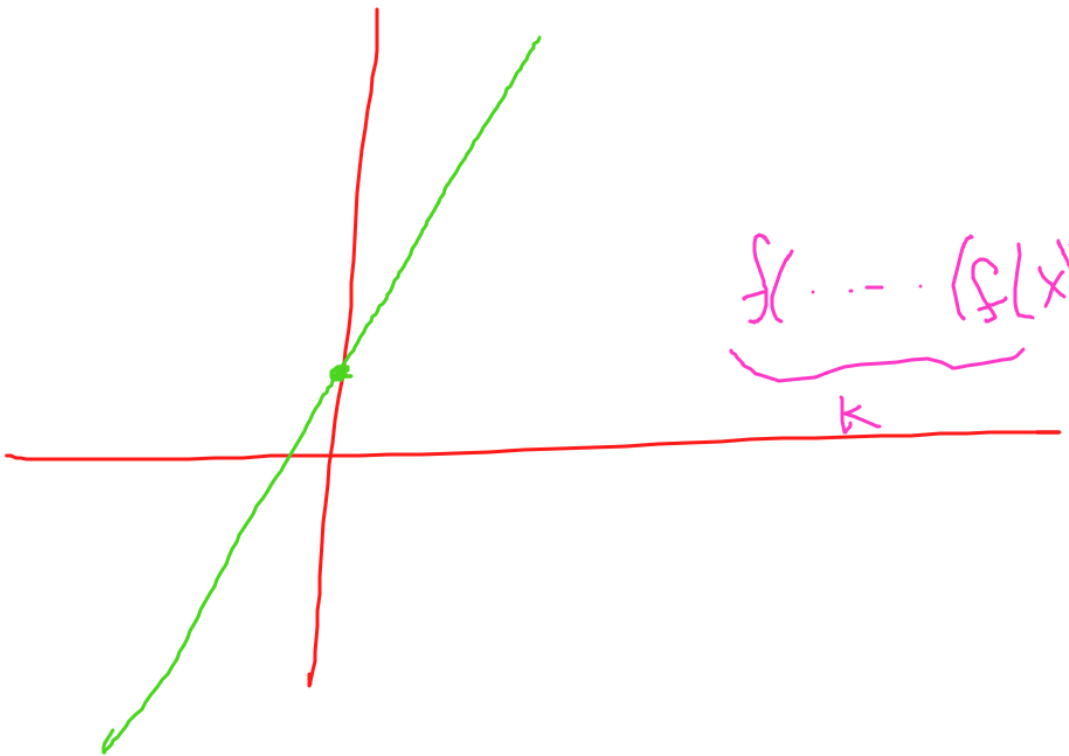
$$f(x) = \frac{x}{1+x}$$

$$= \frac{1+x-1-x+x}{1+x}$$

$$= 1 + -\frac{1-x+x}{1+x}$$

$$= 1 - \frac{1}{1+x}$$

$a \in [0,1) \Rightarrow \exists x_a \in \mathbb{R}_0^+ : f(x_a) = a$



$f(f(x)) = f(2x+1) = 2(2x+1)+1 = 4x+3$

y

$f(y) = 2y+1$

$\underbrace{f(\cdots(f(x))\cdots)}_{k} = 2^k(x+1)-1$