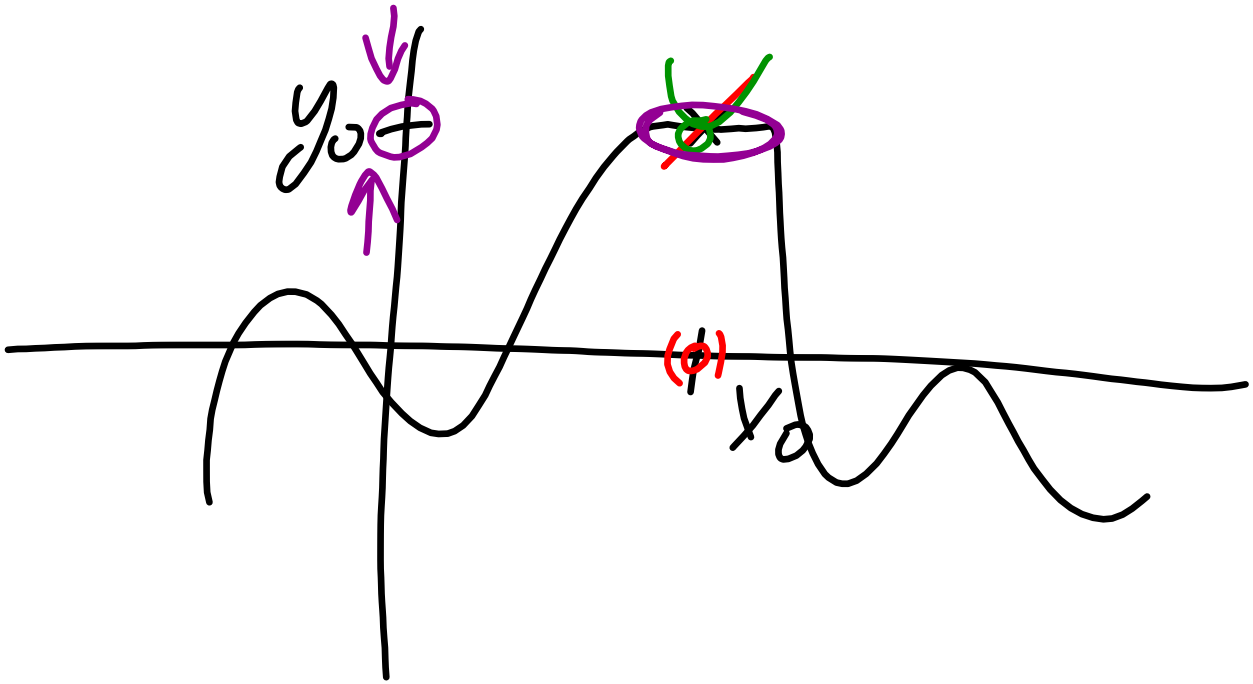
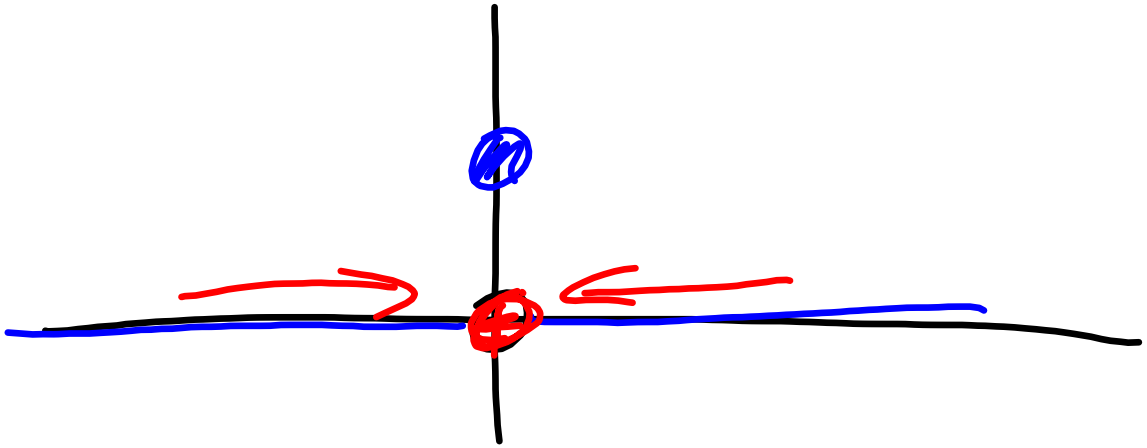
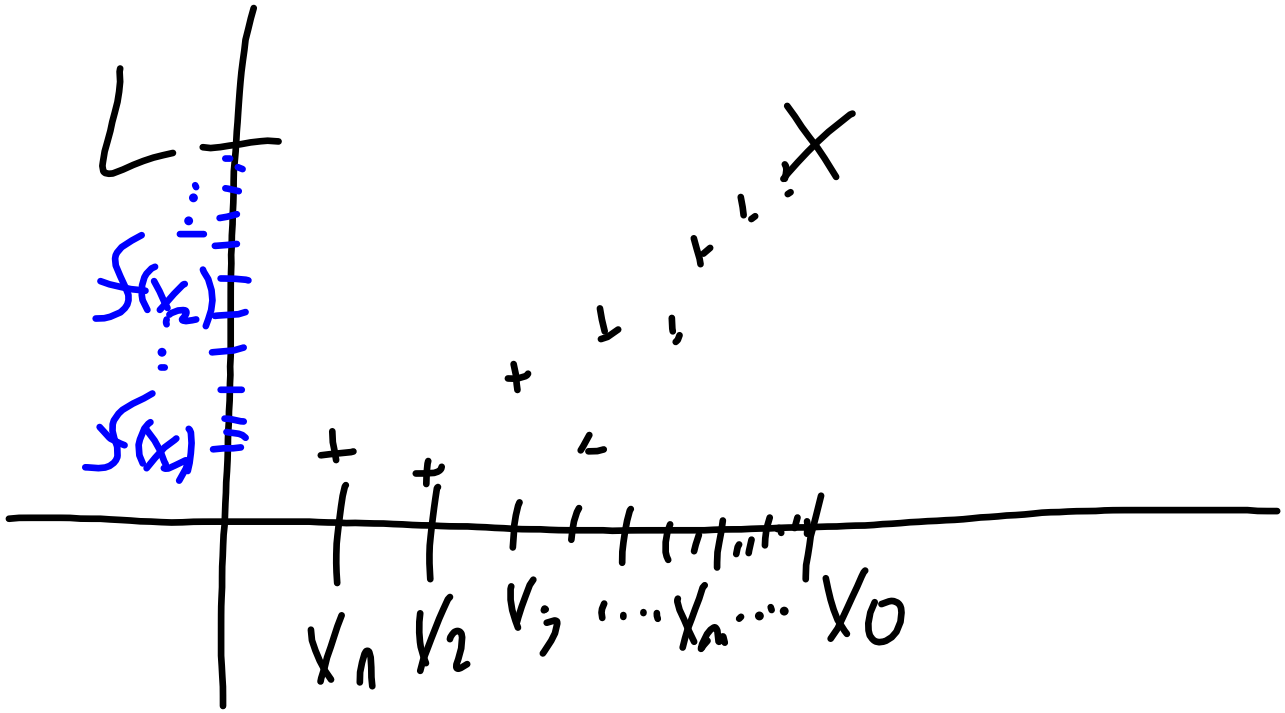
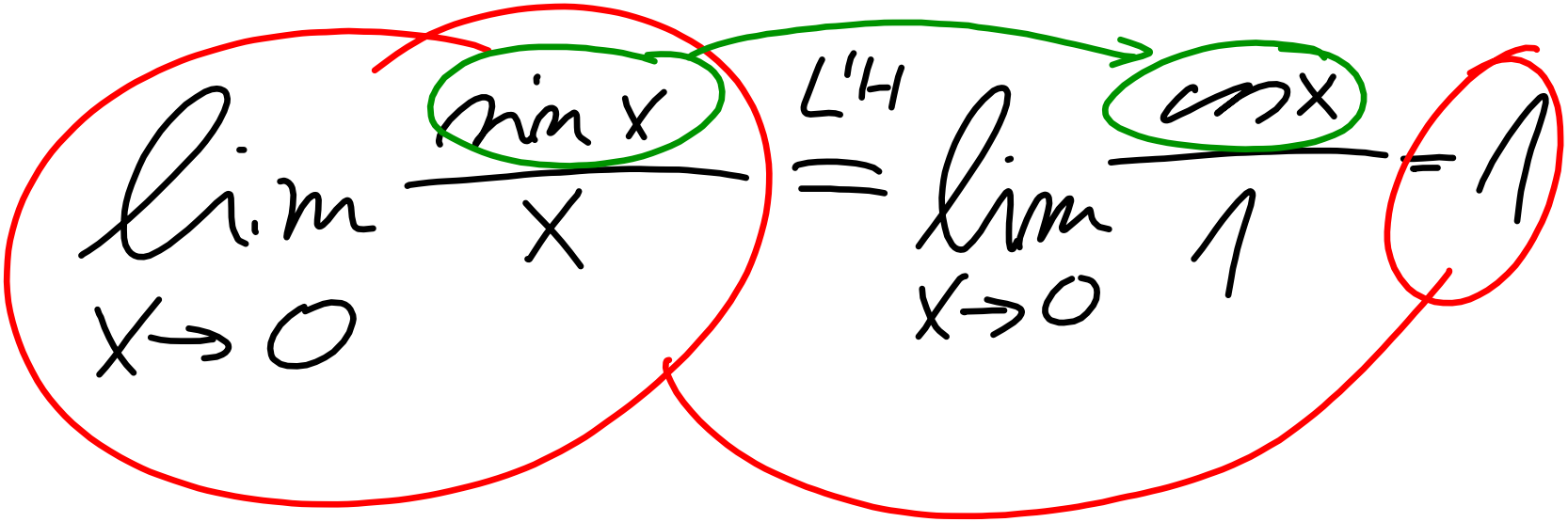
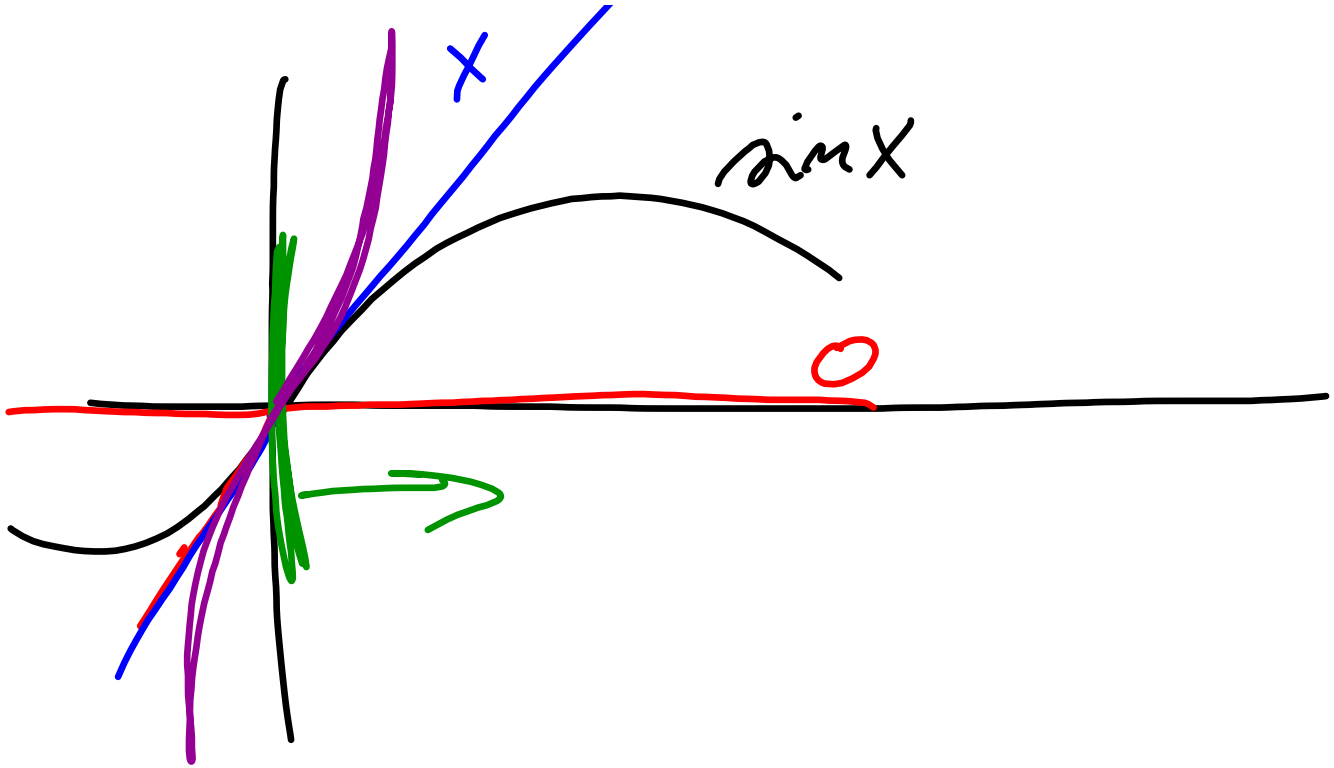

y_0
(0)
y_0




L
f(x2)
f(x1)
X
X1 X2 X3 ... Xn ... X0


lim
x→0
sin x
x
L'H
=
lim
x→0
cos x
1
= 1


x
sin x
0

$$\lim_{x\to 0}\frac{\sin 5x}{x}=\lim_{x\to 0}\left(\frac{\sin 5x}{5x}\cdot 5\right)=$$

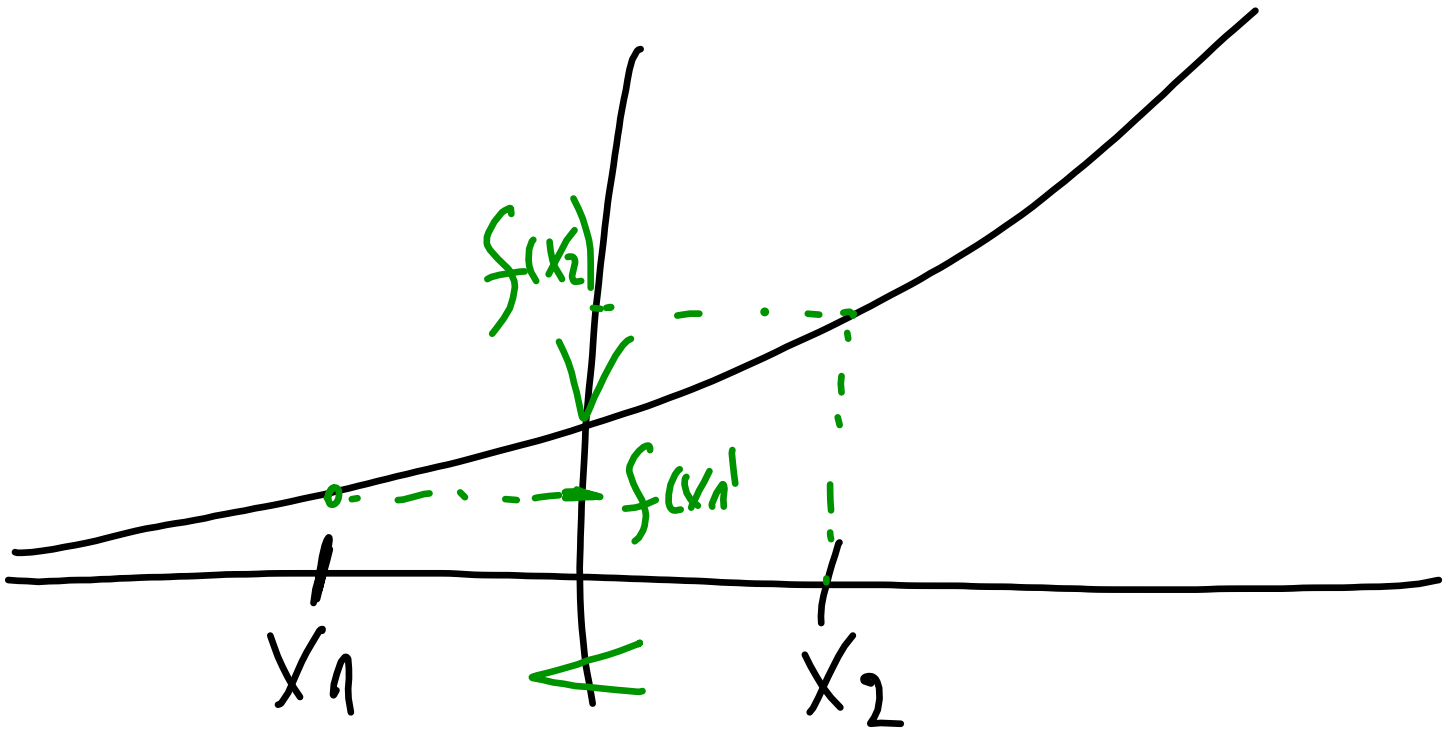
$$=5\cdot 1=5$$

$n = 1 \Rightarrow \quad \frac{1}{2} < x \leq \frac{1}{1}$

$n = 2 \Rightarrow \quad \frac{1}{3} < x \leq \frac{1}{2}$

$n = 3 \Rightarrow \quad \frac{1}{4} < x \leq \frac{1}{3}$

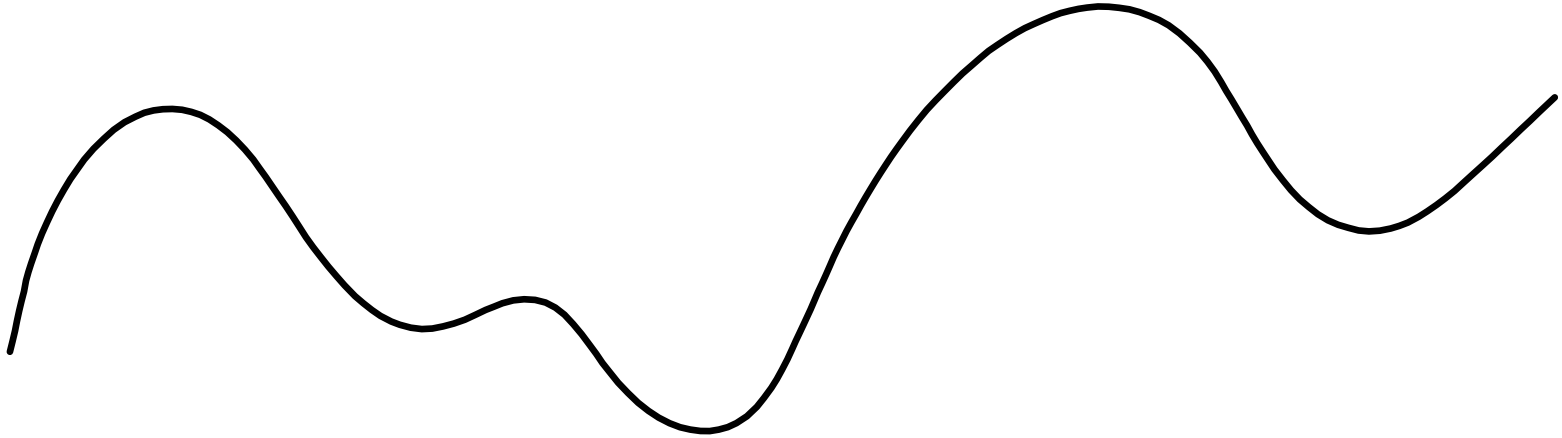
$\vdots$

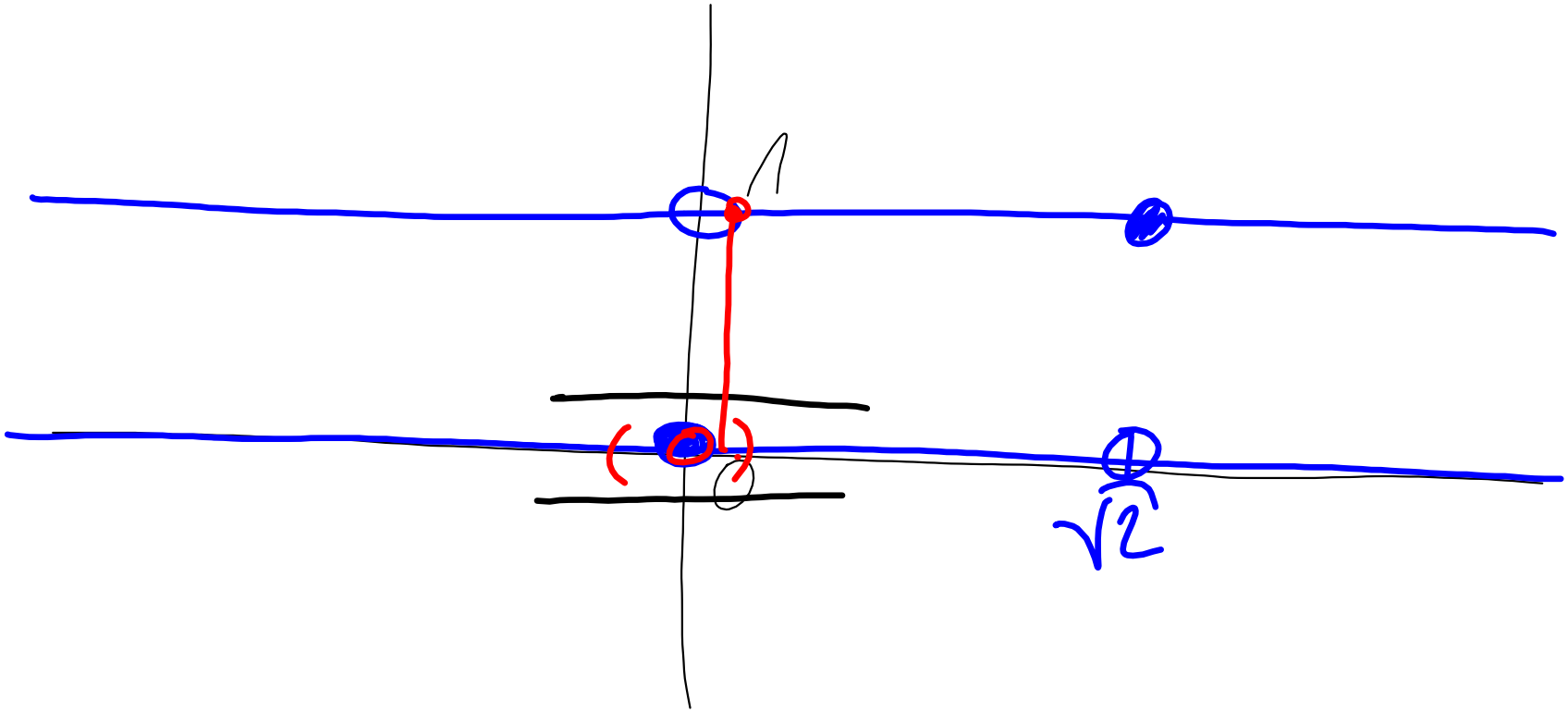

f(x2)
f(x1)
X1
X2

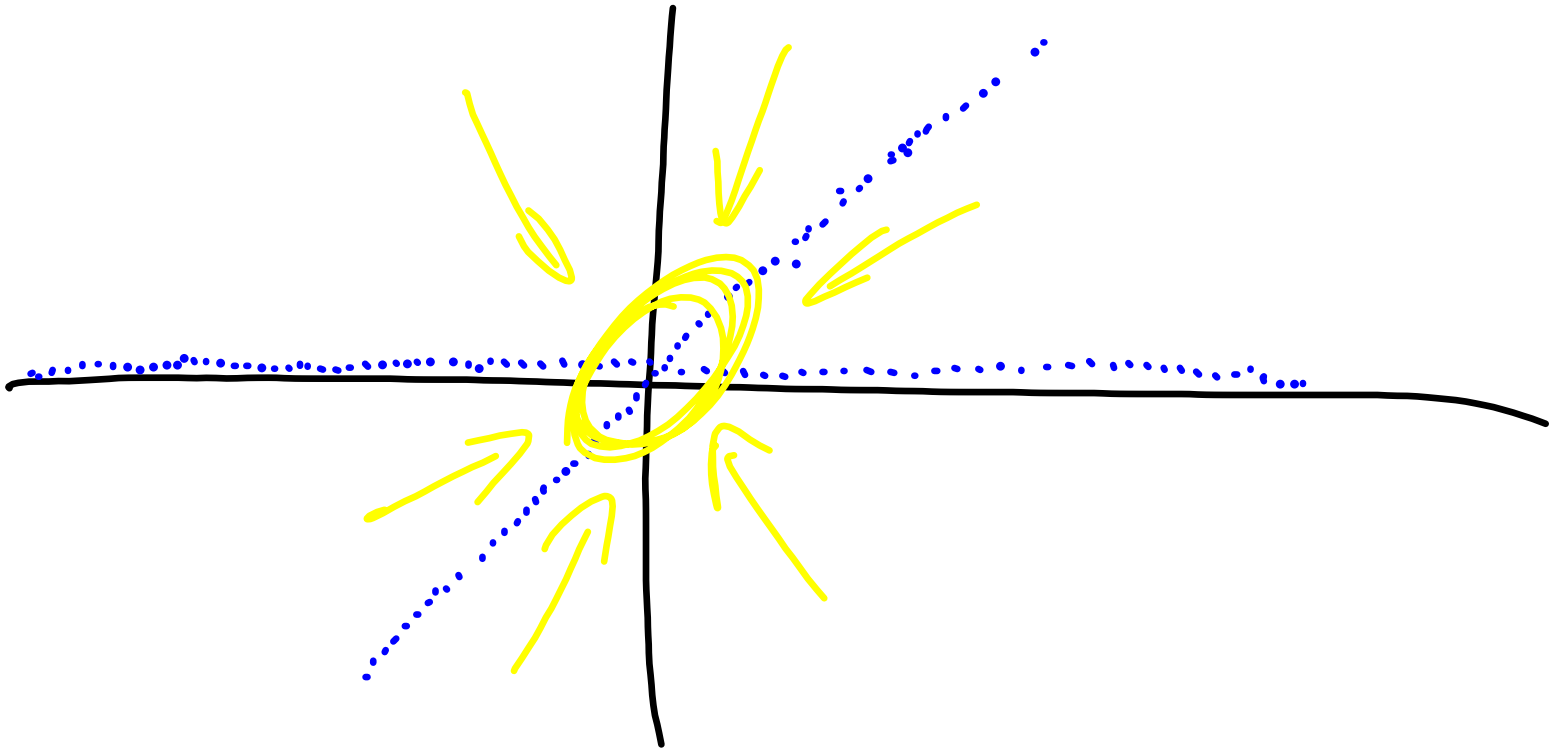
$$a^x = e^{\ln a^x} = e^{x \cdot \ln a}$$

$$\lim_{x\to 0}\frac{e^{x\cdot\ln a}-1}{x\cdot\ln a}=\left|\begin{array}{l}z=x\cdot\ln a\\ x\to 0\Rightarrow\\ \Rightarrow z\to 0\end{array}\right|=$$

$$=\lim_{z\to 0}\frac{e^{z}-1}{z}$$



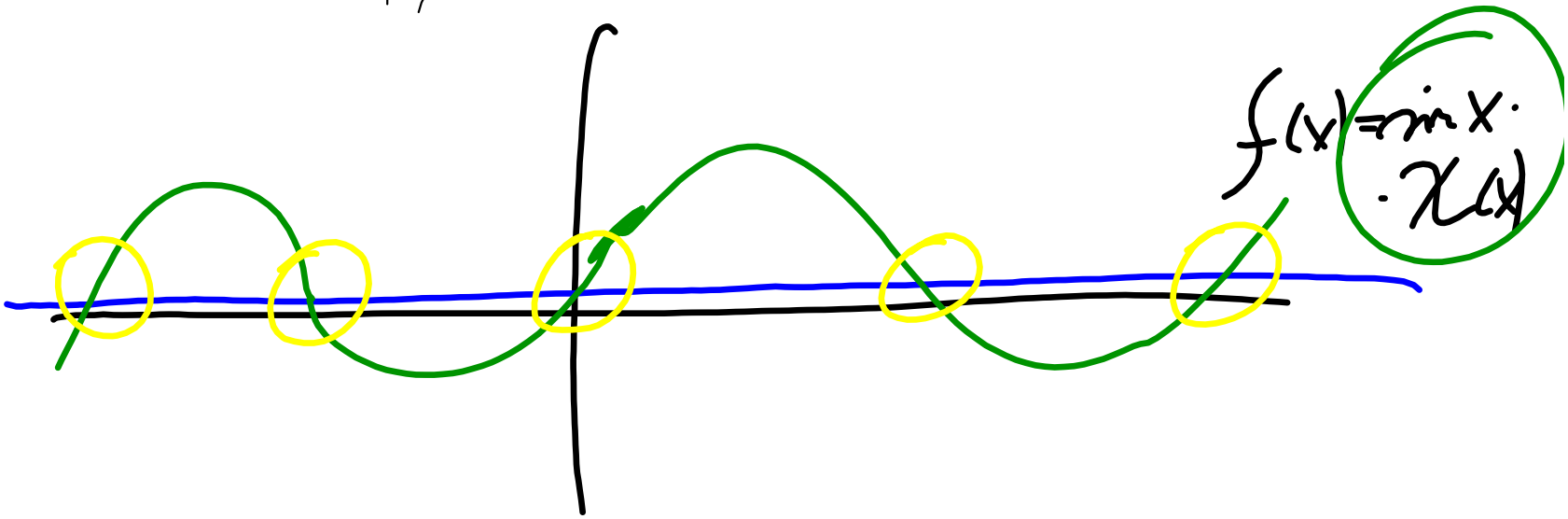

1
0
√2



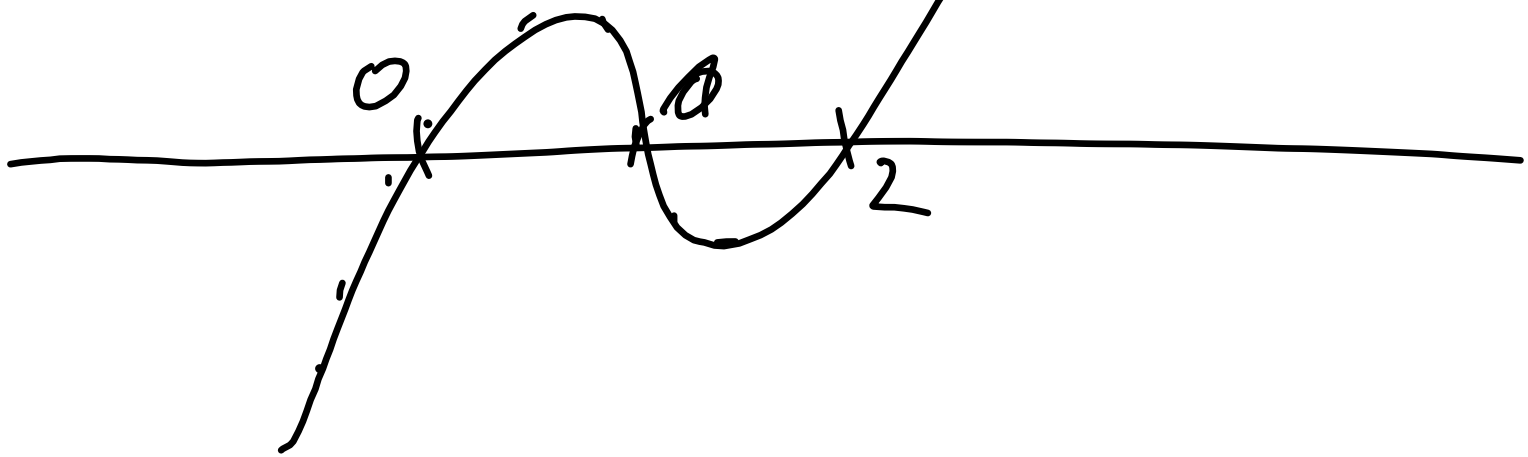
$-5, 0, 2$

$(x+5) \cdot x \cdot (x-2) \cdot \chi(x)$

$$\chi(x) = \begin{cases} 0, & x \in \mathbb{Q} \\ 1, & x \in \mathbb{I} \end{cases}, \quad \sin x$$



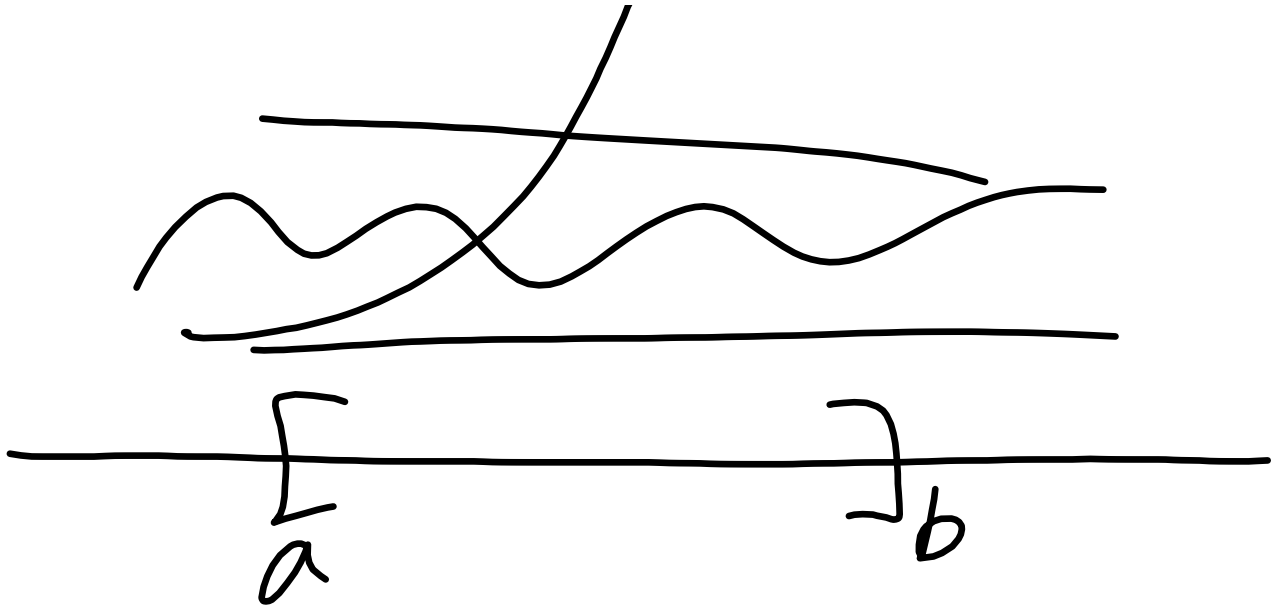
$x \cdot (x-1) \cdot (x-2) = x^3 - 3x^2 + 2x$

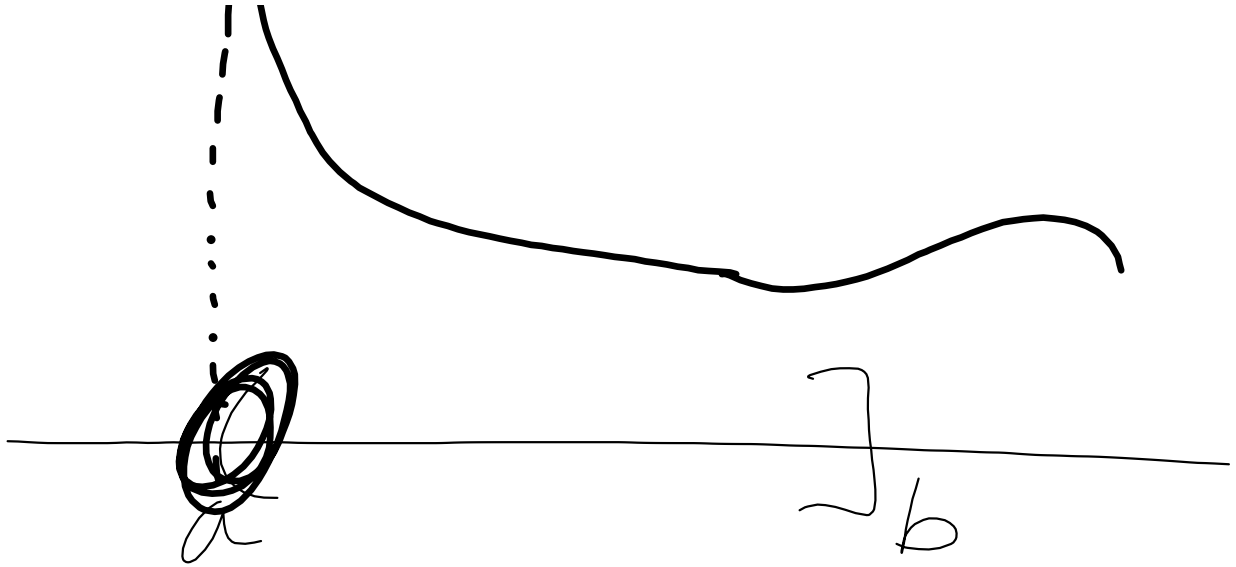


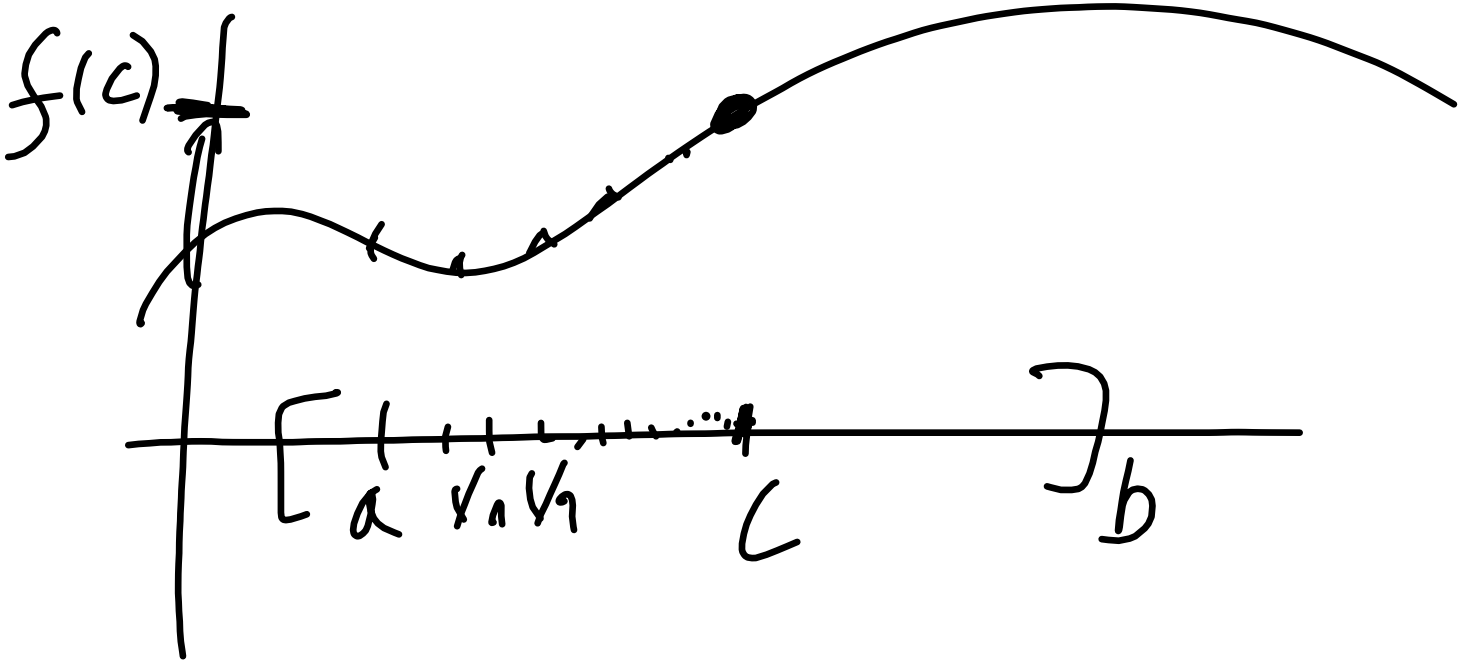
$$\lim_{x \to \alpha} e^{f(x)} = e^{\lim_{x \to \alpha} f(x)}$$

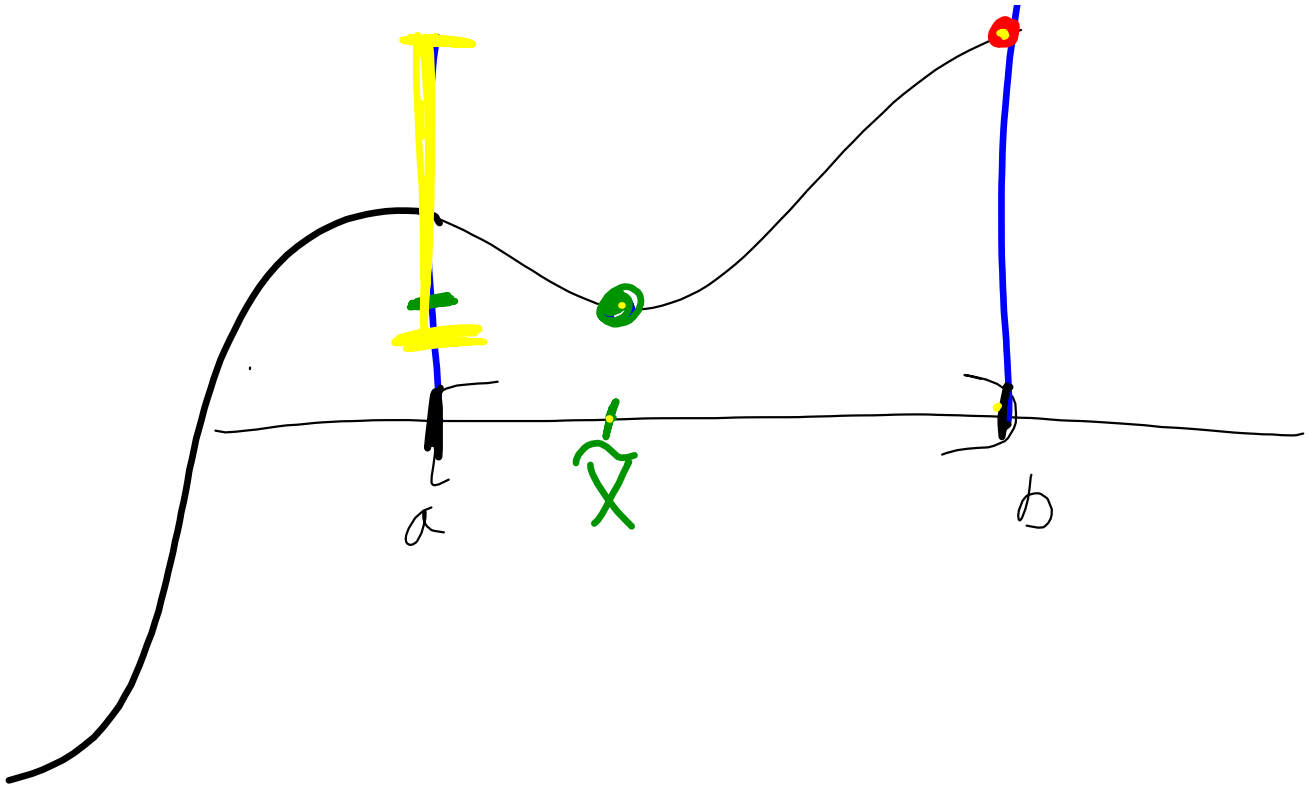
$$\lim_{x \to x_0} \sin x = \sin x_0$$

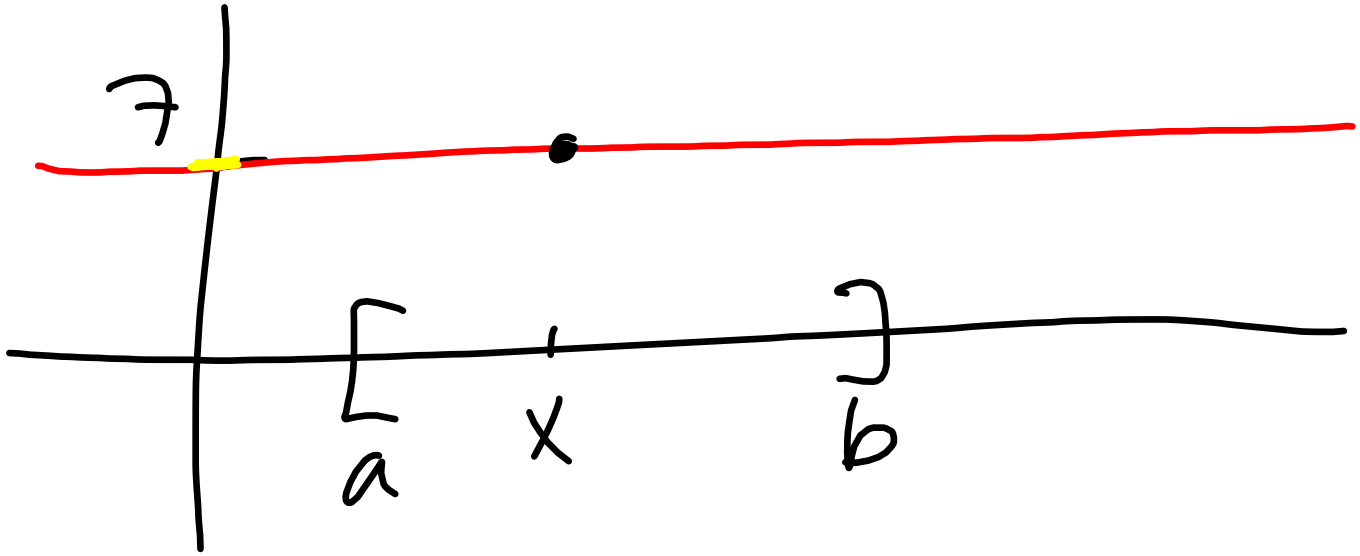
$$\lim \left(\sin x \right) - \sin x_0 = 0$$

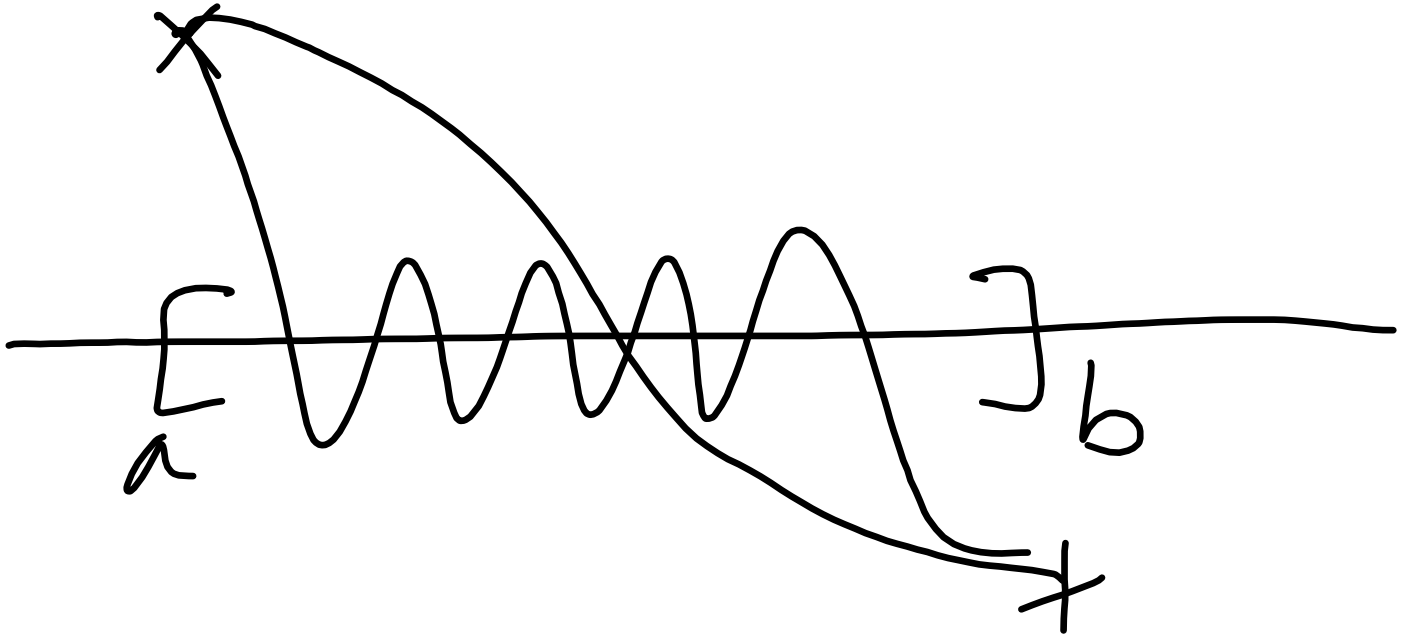

a
b

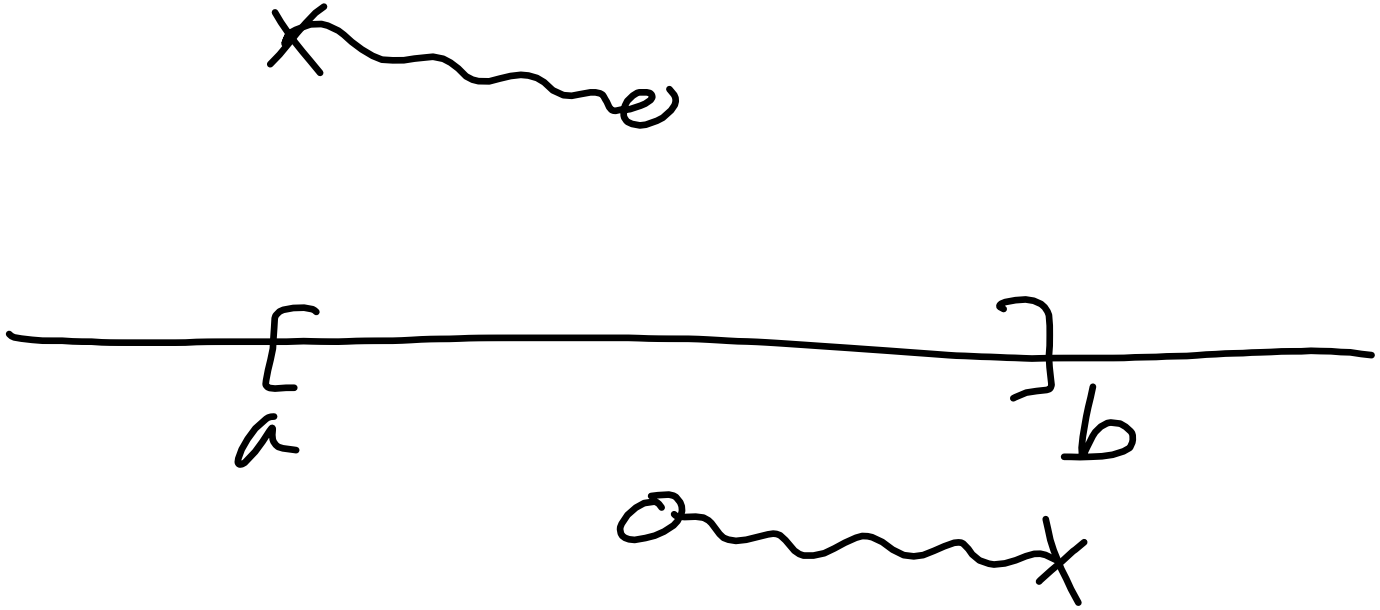

a
b

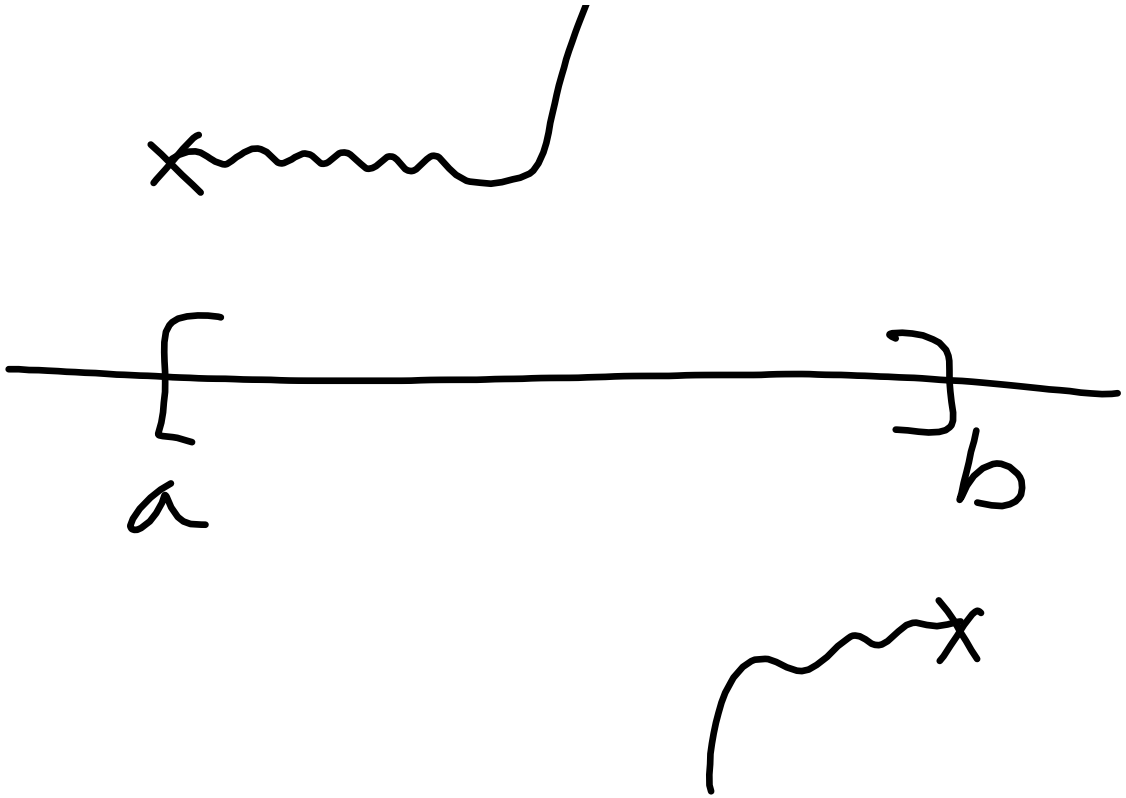

f(c)
a
c
b

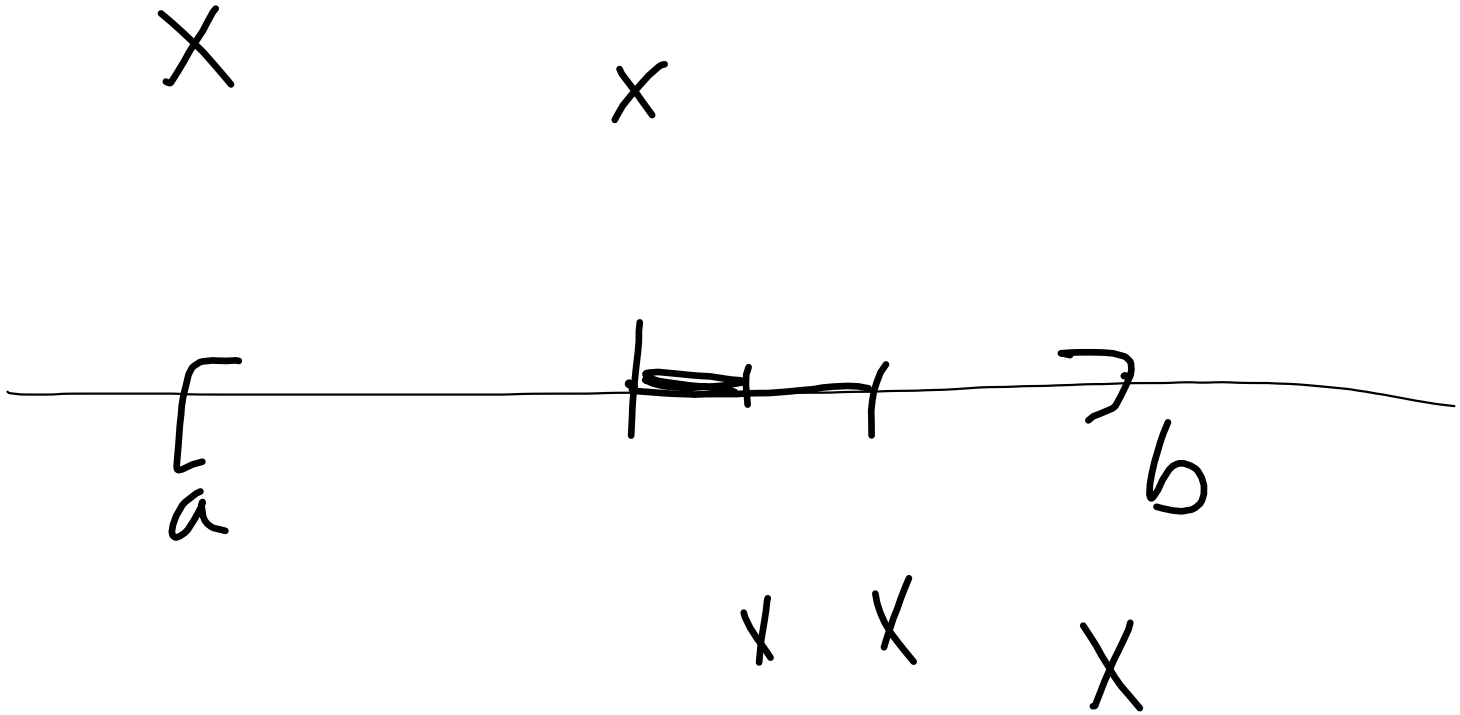

a
b


7
a
x
b


a
b


a
b


a
b


a
b