$n=10$ $\quad p=q=\frac{1}{2}$

$K \geq 3$

$k=3,4,5,6,7,8,9,10$

$P_3(10)=C_{10}^{3}\left(\frac{1}{2}\right)^{3}\cdot\left(\frac{1}{2}\right)^{7}$

$A \quad k \geq 3$ $\quad 0,1,2.$

$\overline{A} \quad k<3$

$P(\overline{A})=P_{10}(0)+P_{10}(1)+P_{10}(2)$

$P(A)=1-P(\overline{A})$

miro

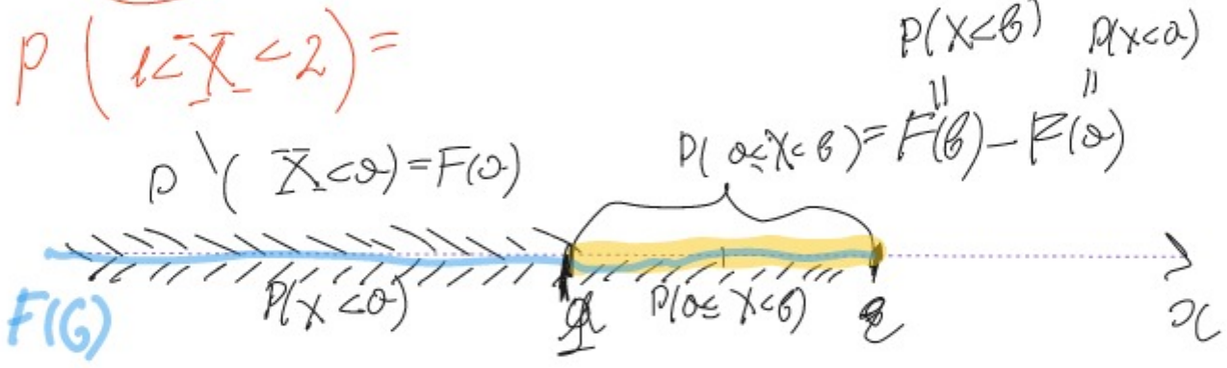
$$F(x) = P(X < x)$$

$$F_t = \begin{cases} 0 & t \le 0 \\ t^2/4 & 0 < t \le 2 \\ 1 & t > 2 \end{cases}$$

$P(X<3) = F(3)$

$P(X<1) = F(1) = \frac{1^2}{4} = \frac{1}{4}$

$P(1<X<2) =$



$P(X<a) + P(a \le X < b) = P(X<b)$

$P(1<X<2) = F(2) - F(1) = \frac{2^2}{4} - \frac{1^2}{4}$

$F(2) = \frac{2^2}{4} = 1$

$P\left(-\frac{1}{2} < X < \frac{3}{2}\right) = F\left(\frac{3}{2}\right) - F\left(-\frac{1}{2}\right) = \frac{\left(\frac{3}{2}\right)^2}{4} - 0$

$= \frac{9}{16}$

miro

$$P(X=1) = F(1) - F(1) = 0$$

$$\| \qquad F(1) = P(X<1)$$

$$P(1 \le X < 1)$$

$$P(1 \le X < 1+\Delta x) = F(1+\Delta x) - F(1) \to 0$$

$$\Delta x \to 0$$

$$f(x) = F'(x)$$

$$f(t) = \begin{cases} 0, & t<0 \\ \frac{2t}{4} & 0<t<2 \\ 0, & t>2 \end{cases}$$

miro

$$Me(X) = m$$

$$P(X < m) = \frac{1}{2}$$

$$F(m) = \frac{1}{2}$$

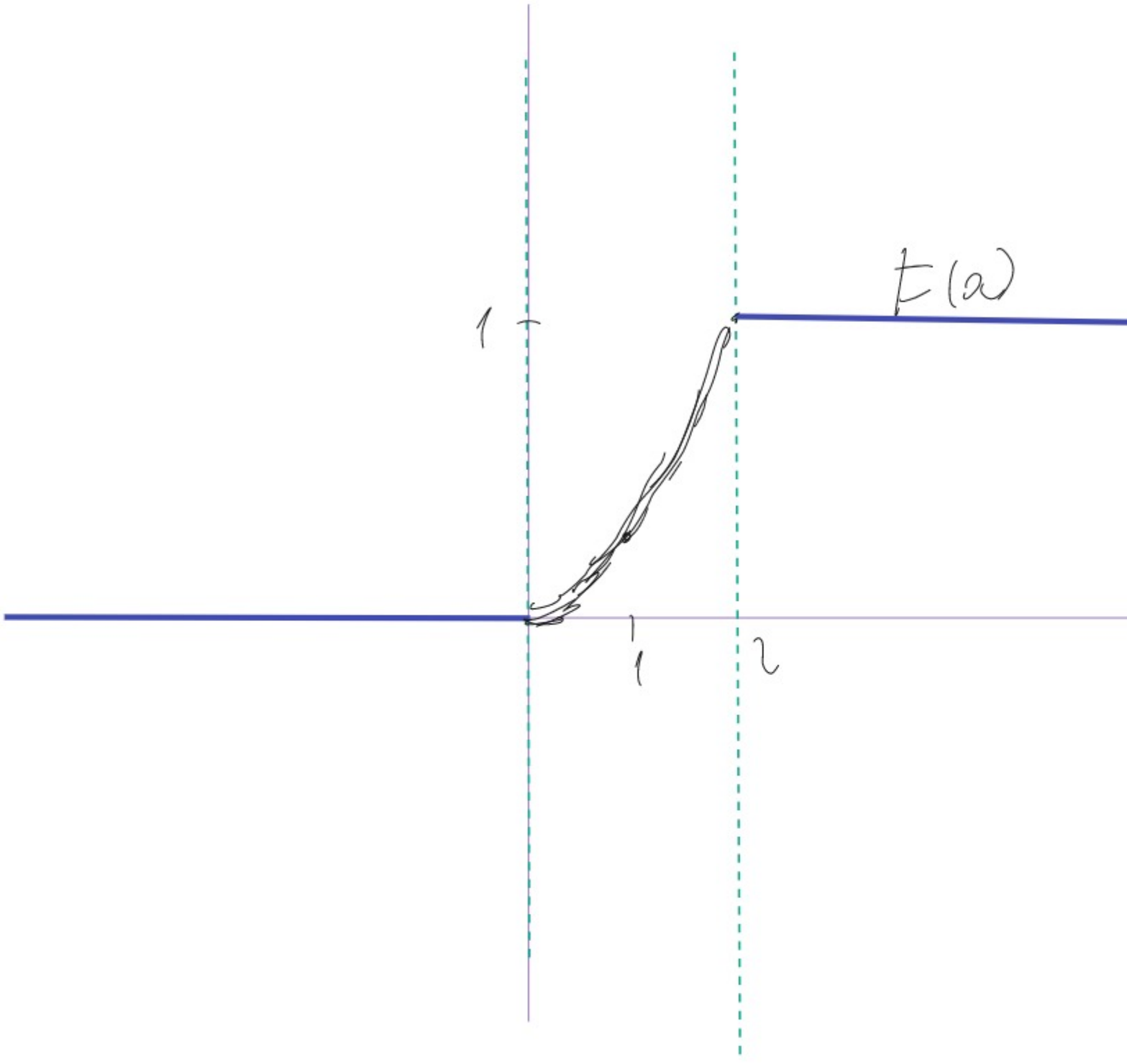
$0 = \frac{1}{2}, x \le 0$ | $\frac{x^2}{4} = \frac{1}{2}, 0 < x \le 2$ | $1 = \frac{1}{2}$ $x > 2$

$x_1 = \sqrt{2} \in (0;2]$

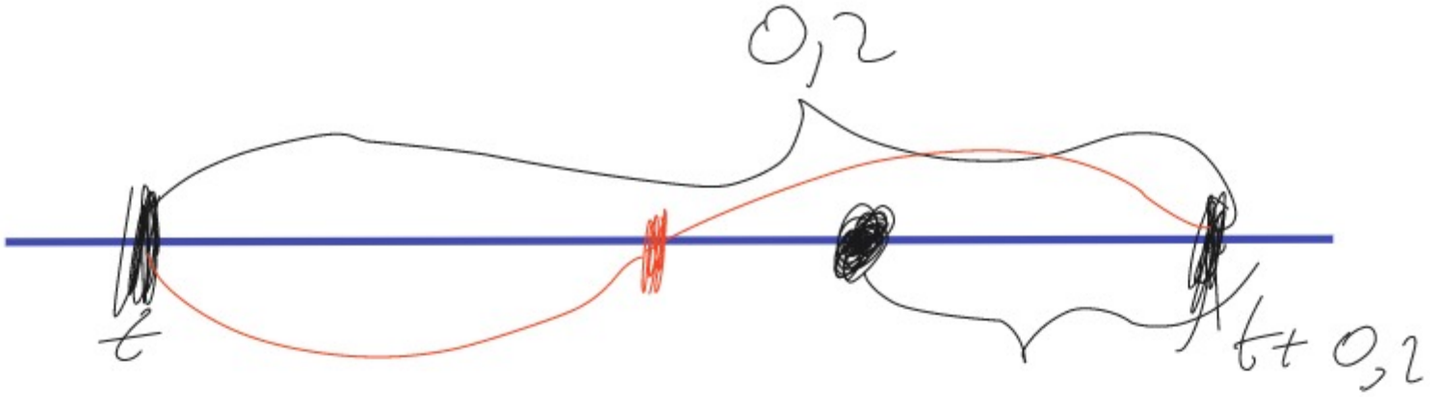
$x_2 = -\sqrt{2} \notin (0;2]$

$$m = \sqrt{2}$$

miro



miro



$X \in [0; 0,1]$

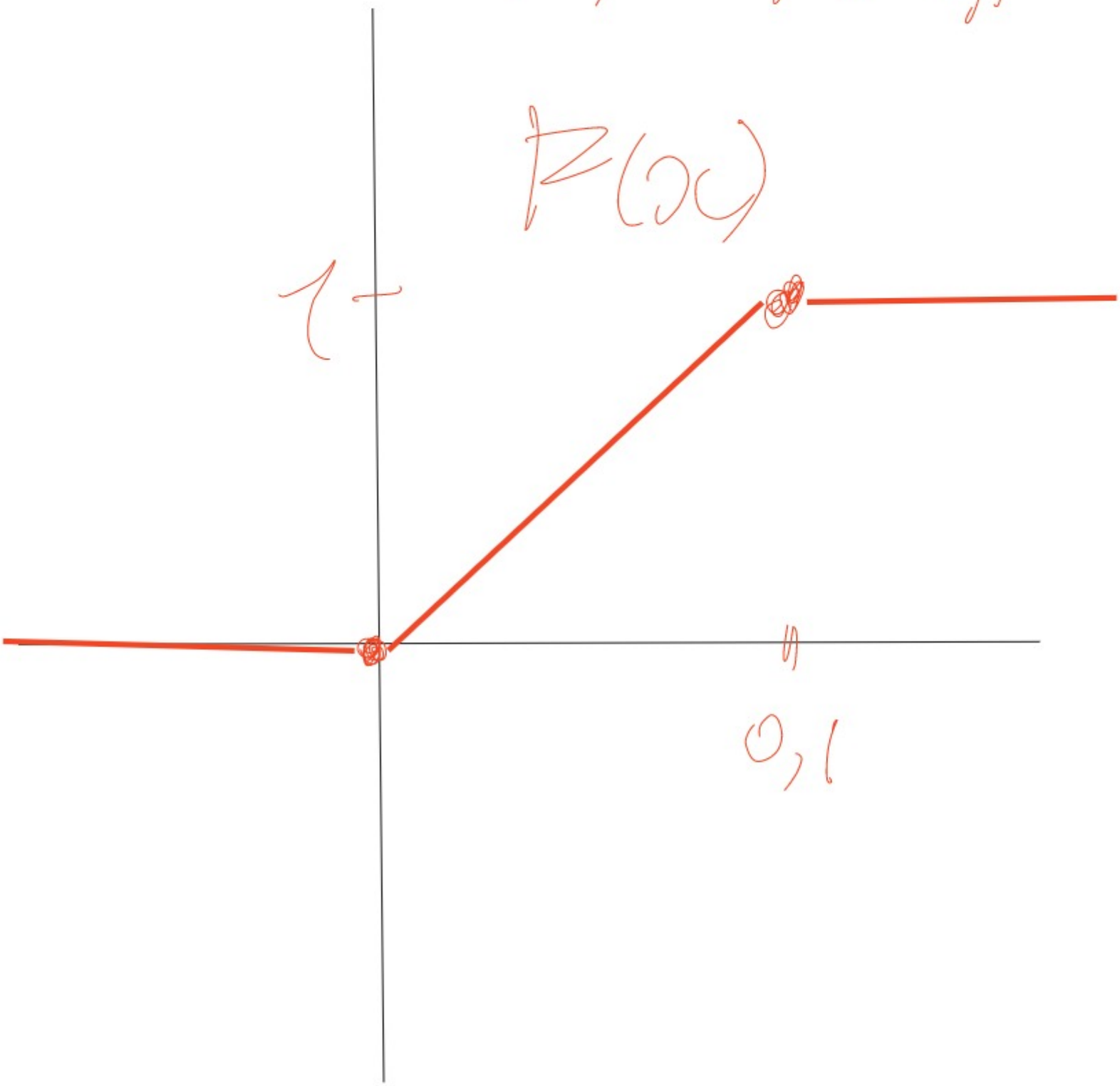
равномерное

$$f(x) = \begin{cases} 0, & x \notin [0;0,1] \\ \frac{1}{0,1-0} & x \in [0;0,1] \end{cases}$$

$$f(x) = \begin{cases} 0 & x \notin [0,0,1] \\ 10 & x \in [0;0,1] \end{cases}$$

miro

$$F(x) = \begin{cases} 0, & x \le 0 \\ 10x, & 0 < x \le 0{,}1 \\ 1, & x > 0{,}1 \end{cases}$$



miro

$$P(X < 0{,}04) =$$

$$= F(0{,}04) =$$

$$=$$

miro