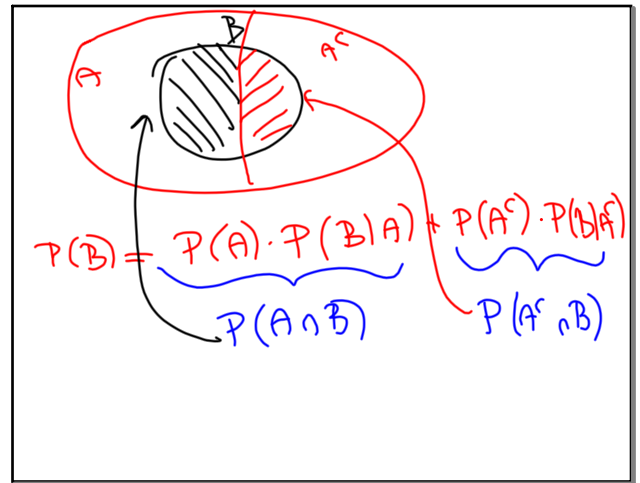
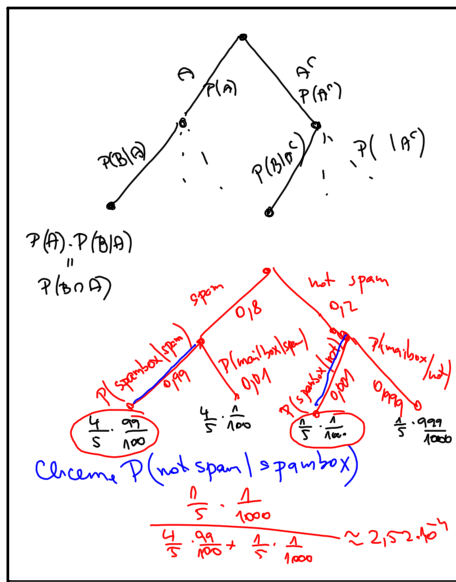


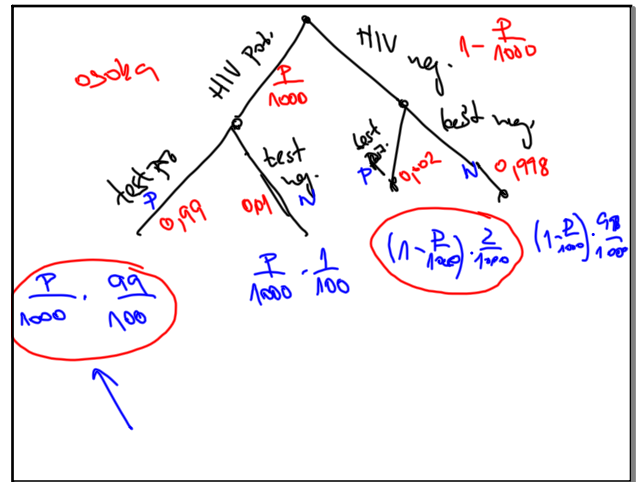
3 5-10:16



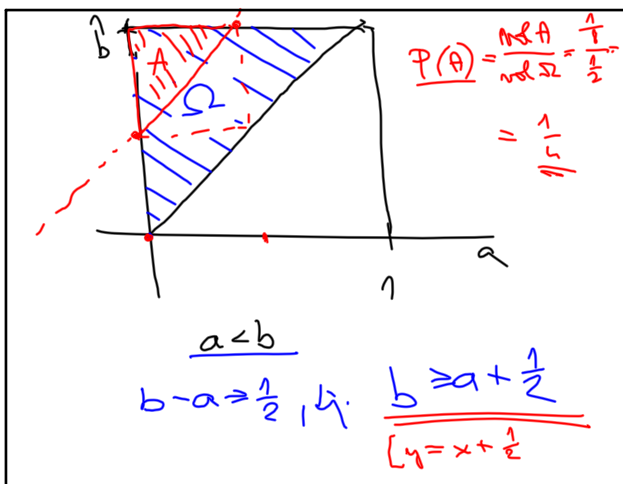
3 5-10:27



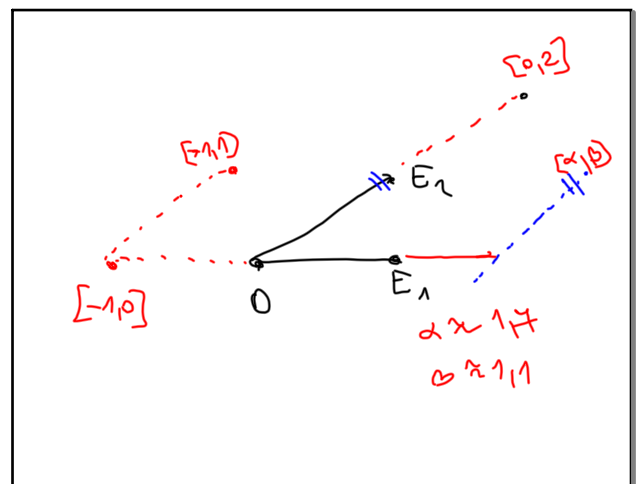
3 5-10:29



3 5-10:42



3 5-10:51



3 5-11:02

$$x(t) = x_0 + t \cdot \alpha \quad v = (\alpha, \beta)$$

$$y(t) = y_0 + t \cdot \beta \quad O = [x_0, y_0]$$

z 1. : $t = \frac{x(t) - x_0}{\alpha}$

do 2 $y(t) = y_0 + \frac{x(t) - x_0}{\alpha} \cdot \beta$

$$\alpha \cdot y = y_0 \cdot \alpha + \beta \cdot x - \beta \cdot x_0$$

$$-\beta \cdot x + \alpha \cdot y = \alpha \cdot y_0 - \beta \cdot x_0$$

obecni
rce
primky

$$\alpha \cdot x + b \cdot y = c \quad a, b, c \in \mathbb{R}$$

35-11:06

2 primky: $ax + by = r$
 $cx + dy = s$

$F: [x, y] \mapsto [x', y']$

$$x' = ax + by$$

$$y' = cx + dy$$

$F: \begin{pmatrix} a & b \\ c & d \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} ax + by \\ cx + dy \end{pmatrix}$

35-11:11

$ax + by = r$
 $cx + dy = s$

rovnoběžné
↕
 $(c, d) = t \cdot (a, b)$
 $\frac{a}{c} = \frac{b}{d}$
 $ad - bc = 0$

$\frac{a}{c}x + \frac{b}{d}y = 1$

$\begin{pmatrix} a & b \\ c & d \end{pmatrix}$
ad - bc ... determinant

35-11:20

$(\cos \varphi, \sin \varphi)$

odchyta vektor (x_1, x_2) (y_1, y_2)
je to kde $\cos \varphi = \frac{x_1 y_1 + x_2 y_2}{\sqrt{x_1^2 + x_2^2} \cdot \sqrt{y_1^2 + y_2^2}} = P$

Cauchy-Schwarzova nerovnost:
 $|x_1 y_1 + x_2 y_2| \leq \sqrt{x_1^2 + x_2^2} \sqrt{y_1^2 + y_2^2}$

$P_{\text{proj}} = -1 \leq P \leq 1$

35-11:26

skladání zobrazení:

$$F(G(v)) = (F \circ G)(v)$$

35-11:32

zrcadlení:

35-11:35

