$\mathbb{E}Y = \int_{\mathbb{R}} y f_Y(y)\,dy$

6zad. $f_{X,Y}(x,y) = c(1+xy)$

$0 < x < y < 1$

c, $\mathbb{E}XY$ i $D(X,Y) = ?$

za c: $\int_0^1 \int_0^y c(1+xy)\,dx\,dy = 1$

$\mathbb{E}XY = \int_0^1 \int_0^y xy \cdot f_{X,Y}(x,y)\,dx\,dy$

$D(X-Y) = ?$

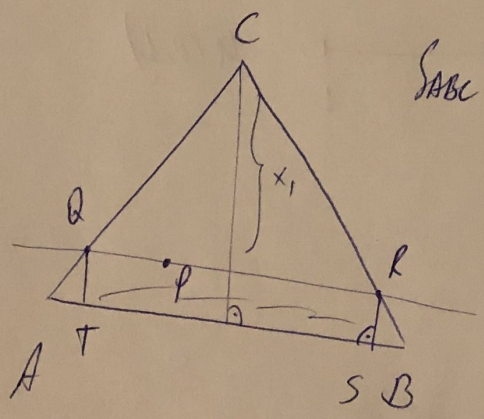
$= \mathbb{E}(X-Y)^2 - (\mathbb{E}(X-Y))^2$

$\mathbb{E}(X-Y)^2 = \int_0^1 \int_0^y (x-y)^2 f_{X,Y}(x,y)\,dx\,dy$ ostalo za $\mathbb{E}(X-Y) = \mathbb{E}X - \mathbb{E}Y$

$f_X(x) = \int_x^1 c(1+xy)\,dy$ za $x \in (0,1)$

$f_Y(y) = \int_0^y c(1+xy)\,dx$ za $y \in (0,1)$

7zad



$S_{ABC} = 1$ $\quad \mathbb{E}S_{QRST} = ?$

$CH = h$ $\quad ah = 2$ $\quad \frac{x_1}{h} = \frac{QR}{a}$ $\quad QR = \frac{ax_1}{h}$

$AB = a$ $\quad RS = h - x_1$

T.e. $S_{QRST} = (h-x_1) \cdot \frac{ax_1}{h}$