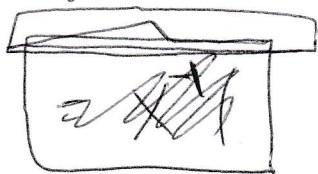
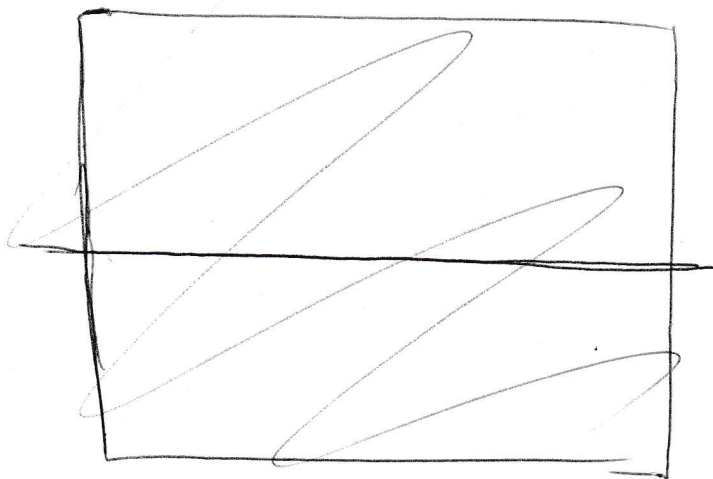


$$\{\omega: X(\omega) = x\}$$



$$P(X \leq x) = \int_{-\infty}^x f(x) dx$$



$$f(\mathbb{R}^2) \rightarrow \mathbb{R}$$

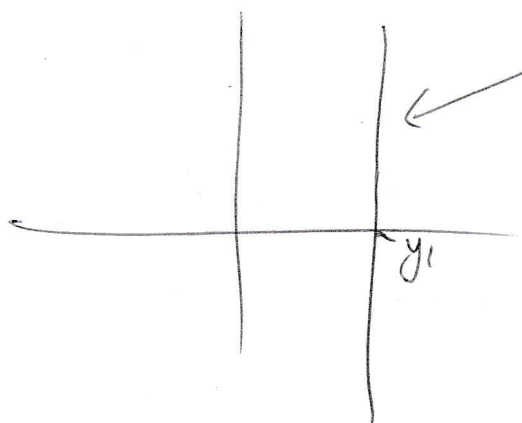
$$Y \in S(p_i)$$

$$\Leftrightarrow Y_i = F_2^{-1}(p_i), Y_j = z_j \pm Y_j$$

Y

$$f(Y) = Y_1$$

$$\text{then } f^{-1}(y_1) = \{(y_1, y_2) : y_2 \in \mathbb{R}, y_1 = y_1\}$$



which has measure 0 in \mathbb{R}^2

$$Y^{-1}(f^{-1}(y_1)) = \{\omega : Y_1(\omega) = y_1\}$$