ZAPISIMO $p_x(x_i)$

$$p_x(x_i) = \begin{cases} a & \dots x_1=0 \\ 2a & \dots x_2=1 \\ 3a & \dots x_3=2 \\ a & \dots x_4=3 \\ a & \dots x_5=4 \end{cases}$$

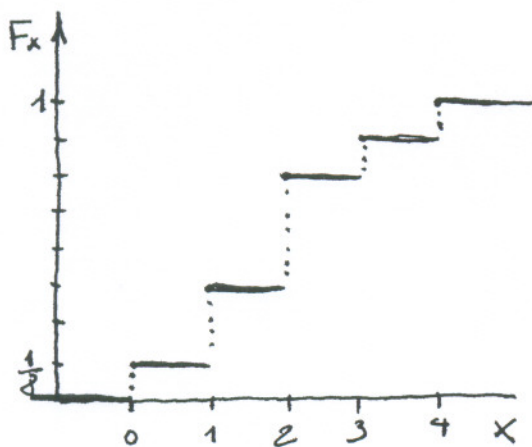
Iz POGOJA $\sum_{i=1}^n p_x(x_i) = 1$ DOBIMO: $a+2a+3a+a+a=8a=1$

$$\boxed{a = \frac{1}{8}}$$

TOREJ:

$$p_x(x_i) = \begin{cases} \frac{1}{8} & \dots x_1=0 \\ \frac{2}{8} & \dots x_2=1 \\ \frac{3}{8} & \dots x_3=2 \\ \frac{1}{8} & \dots x_4=3 \\ \frac{1}{8} & \dots x_5=4 \end{cases}$$

$$F_x(x) = \begin{cases} 0 & x < 0 \\ \frac{1}{8} & 0 \leq x < 1 \\ \frac{3}{8} & 1 \leq x < 2 \\ \frac{6}{8} & 2 \leq x < 3 \\ \frac{7}{8} & 3 \leq x < 4 \\ 1 & 4 \leq x \end{cases}$$



$$E[X] = \sum_{i=1}^5 x_i p_x(x_i) = 0 \cdot \frac{1}{8} + 1 \cdot \frac{2}{8} + 2 \cdot \frac{3}{8} + 3 \cdot \frac{1}{8} + 4 \cdot \frac{1}{8} = \frac{2+6+3+4}{8} = \frac{15}{8} = \underline{\underline{1.875}}$$

$$E[X^2] = \sum_{i=1}^5 x_i^2 p_x(x_i) = 0^2 \cdot \frac{1}{8} + 1^2 \cdot \frac{2}{8} + 2^2 \cdot \frac{3}{8} + 3^2 \cdot \frac{1}{8} + 4^2 \cdot \frac{1}{8} = \frac{2+12+9+16}{8} = \frac{39}{8} = 4.875$$

$$\text{Var}[X] = E[X^2] - E[X]^2 = \frac{39}{8} - \left(\frac{15}{8}\right)^2 = \underline{\underline{1.359}}$$