

TRACCIA 6/6/12

ESERCIZIO n. 3

$$n = 25 \quad a = 13 \quad b = 5 \quad c = 7$$

$$\alpha = 0,1$$

$$H_0: P(X=a) = \frac{1}{2} \quad P(X=b) = \frac{1}{6} \quad P(X=c) = \frac{1}{3}$$

TEST DEL BUON ADATTAMENTO

SI ACCETTA H_0 SE:

$$\sum_{k=1}^K \frac{(x_k - np_k)^2}{np_k} \leq \chi^2_{K-1, \alpha}$$

$$\sum_{k=1}^3 \frac{(x_k - np_k)^2}{np_k} \leq \chi^2_{3-1, 0,1} =$$

$$= \frac{\overset{\text{NUMERO DI A}}{\downarrow} 13 - \overset{m}{\downarrow} (25 \cdot \overset{\text{PROBABILITA' DI A}}{\downarrow} \frac{1}{2})^2}{25 \cdot \frac{1}{2}} + \frac{(5 - (25 \cdot \frac{1}{6}))^2}{25 \cdot \frac{1}{6}} + \frac{(7 - (25 \cdot \frac{1}{3}))^2}{25 \cdot \frac{1}{3}} =$$

$$= \frac{(13 - 12,5)^2}{12,5} + \frac{(5 - 4,17)^2}{4,17} + \frac{(7 - 8,33)^2}{8,33} =$$

$$= \frac{0,25}{12,5} + \frac{0,69}{4,17} + \frac{1,77}{8,33} = 0,02 + 0,16 + 0,21 = 0,39 \Rightarrow$$

$$0,39 \leq \chi^2_{2, 0,1} \quad 0,39 \leq 4,61 \Rightarrow \text{SI ACCETTA } H_0$$