

<u>7.13</u>	G	O	P	P	Y
18	9	15	13	11	← observed
13.2	13.2	13.2	13.2	13.2	← expected

$H_0: p = 209.$

vs.

$H_a: \text{not equal}$

for each
color

not H_0

$$\chi^2 = \sum_{\text{colors}} \frac{(\text{observed} - \text{expected})^2}{\text{expected}}$$

$$\left\{ \begin{array}{l} \chi^2 = 3.7 \\ df = 4 \\ p\text{-value} = .448 \end{array} \right.$$

$$= \frac{(18 - 13.2)^2 + (9 - 13.2)^2 + (15 - 13.2)^2 + (13 - 13.2)^2 + (11 - 13.2)^2}{13.2}$$

13.2

3.7

<u>7.14</u>			
	R	P	S
	66	39	14
			← observed
	39.67	39.67	39.67
			← expected

$$H_0: p = \frac{1}{3}$$

each

category

$$\text{vs. } H_a: \text{not } H_0$$

$$\chi^2 = \frac{(66 - 39.67)^2 + (39 - 39.67)^2 + (14 - 39.67)^2}{39.67}$$

$$df = 2$$

~~χ^2 test~~

$$\chi^2 = 34.098 \Rightarrow \underline{\underline{p \approx 0}}$$