

STP 226 Group work Ch12

1. In a study of spatial orientation of certain fish 50 individuals were caught in various locations and later tested in artificial pool to see which direction they would choose when released. Use the following data and Chi-square test to test the null hypothesis that fish selected all of 4 directions with equal probability. Use $\alpha = .05$.

Directional choice:	#of fish =O
Toward shore	18
Away from shore	12
Along shore (right)	13
Along shore (left)	7
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total	50

2. In 2000, workplace accidents were distributed on workdays as follows:

Day	Monday	Tuesday	Wednesday	Thursday	Friday
%	25	15	15	15	30

In 2005, a random sample of 100 workplace accidents yielded the following data:

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of accidents=O	27	16	17	12	28
Expected number of accidents under H_0					

Do the data present sufficient evidence to indicate that the distribution of workplace accidents in 2005 differs from the 2000 distribution? Test the appropriate hypotheses by means of a Chi-square test and $\alpha = .05$

3. In randomized clinical trial 154 women with breast cancer were assigned to receive chemotherapy. Another 164 women were assigned to receive chemotherapy combined with radiation therapy. Survival data after 15 years are presented below.

	Chemo only	Chemo+Radiation
Died	78	66
Survived	76	98

total	154	164

a. Conduct the Chi-square test of the hypothesis that type of treatment and survival rate are not associated. Use $\alpha = .05$.

4. Table below shows the relationship between hair and eye color for 6800 German men. Use a Chi-square test to test the hypothesis that hair and eye color are independent. use $\alpha = .05$.

		Hair Color			
		<i>Brown</i>	<i>Black</i>	<i>Fair</i>	<i>Red</i>
Eye Color	<i>Brown</i>	438	288	115	16
	<i>Gray or Green</i>	1387	746	946	53
	<i>Blue</i>	807	189	1768	47
