**Investigation 1:**

We have reports from four colleges on the post-graduation activities for their 2006 graduation classes.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Agriculture | Arts & Sciences | Engineering | Social Science | Total |
| Employed | 379 | 305 | 243 | 125 |  |
| Grad School | 186 | 238 | 202 | 96 |  |
| Other | 104 | 123 | 37 | 58 |  |
| Total |  |  |  |  |  |

Expected Counts: $EC=\frac{\left(row total\right)(column Total)}{n}$

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Agriculture | Arts & Sciences | Engineering | Social Science |
| Employed |  |  |  |  |
| Grad School |  |  |  |  |
| Other |  |  |  |  |

Are students’ choices of post-graduation activities the same across all the colleges?

**Investigation 2:**

The table below shows who survived the sinking of the *Titanic* based on whether they were crew members, or passengers booked in first, second, or third class staterooms.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Crew | First | Second | Third | Total |
| Alive | 212 | 202 | 118 | 178 |  |
| Dead  | 673 | 123 | 167 | 528 |  |
| Total |  |  |  |  |  |

Expected Counts: $EC=\frac{\left(row total\right)(column Total)}{n}$

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Crew | First | Second | Third |
| Alive |  |  |  |  |
| Dead  |  |  |  |  |

Is there a relationship between the class of a person and whether or not they survived?

**Investigation 3:**

In July 1991 and again in April 2001, the Gallup Poll asked random samples of 1015 adults about their opinions on working parents. The table summarizes responses to the question “Considering the needs of both parents and children, which of the following do you see as the ideal family in today’s society?

|  |  |  |
| --- | --- | --- |
|  | 1991 | 2001 |
| Both work full time | 142 | 131 |
| 1 full time, 1 part time | 274 | 244 |
| 1 works away, 1 works at home | 152 | 173 |
| 1 works away, 1 takes care of kids | 396 | 416 |
| No opinion | 51 | 51 |

Based on these results do you think there was a change in people’s attitudes during the 10 years between these polls?

**Investigation 4:**

Suppose that residents of a particular city can watch national news on affiliates of 4 different networks: ABC, CBS, PBS and NBC. A random sample of 300 viewers was selected, and the results are given below:

|  |
| --- |
| SURVEY RESULTS |
|  | ABC | CBS | NBC | PBS |
| Liberal | 20 | 20 | 25 | 15 |
| Moderate | 45 | 35 | 50 | 20 |
| Conservative | 15 | 40 | 10 | 5 |

A researcher wants to know whether there is any relationship between political philosophies (liberal, moderate or conservative) and the network they watch for news. Is there?

**Investigation 5:**

Separate random samples of 101 consumers and 124 dentists were asked to respond to the following statement: “I favor the use of advertising by dentists to attract new patients.” Possible responses were strongly agree, agree, neutral, disagree, and strongly disagree.

|  |  |
| --- | --- |
|  | **SURVEY RESPONSES** |
|  | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Dentists | 34 | 49 | 9 | 4 | 5 |
| Consumers | 9 | 18 | 23 | 28 | 46 |

The authors were interested in determining whether the two groups – consumers and dentists – differed in their attitudes towards advertising.