**AP Statistics Name:
Special Problem 11 (S-2016)**

**Directions**: Complete the following problems as you would on the AP Exam. Show all your work. Indicate clearly the methods you use, because you will be graded on the correctness of your methods as well as on the accuracy and completeness of your results and explanations. This is an individual effort. The internet is not a legal resource.

1. In November 2005, an international study to assess public opinion on the treatment of suspected terrorists was conducted. Each individual in random samples of 1000 adults from nine different countries was asked the following question: “Do you feel the use of torture against suspected terrorists to obtain information about terrorism activities is justified?” Responses consistent with percentages given by the researchers for the samples from Italy, Spain, France, the United States and South Korea are summarized in the table below. Based on these data, is it reasonable to conclude that the response proportions are not the same for all five countries? Use a 0.01 significance level to test the appropriate hypotheses.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Country** | **Never** | **Rarely** | **Sometimes** | **Often**  | **Not Sure** |
| Italy | 600 | 140 | 140 | 90 | 30 |
| Spain | 540 | 160 | 140 | 70 | 90 |
| France | 400 | 250 | 200 | 120 | 30 |
| United States | 360 | 230 | 270 | 110 | 30 |
| South Korea | 100 | 330 | 470 | 60 | 40 |

1. In 1994, a random sample of 978 adults in the United States was asked whether he or she agreed with the following statement: “Sometimes it is necessary to discipline a child with a good, hard spanking.” Respondents were also classified according to the region of the United States in which they lived. The resulting data are summarized in the table below. Is there an association between response (agree, disagree) and the region of residence? Use a 0.01 significance level.

|  |  |  |
| --- | --- | --- |
| Region | Agree | Disagree |
| Northeast | 130 | 59 |
| West | 146 | 42 |
| Midwest | 211 | 52 |
| South | 291 | 47 |