1. Ten monkeys, five reared with a surrogate (artificial) mother and five reared normally, have been observed over a 10-day period in a group play area. The number of self directed behaviors has been scored for each animal during a 20 minute daily test session. The summed scores for each animal are as follows:

|  |  |
| --- | --- |
| Reared with Surrogate Mother | Normally Reared |
| 255 | 173 |
| 241 | 150 |
| 213 | 142 |
| 185 | 131 |
| 151 | 75 |

Compute the M-W U and test it for significance. What does your decision mean in the context of the exercise?

1. The Myers-Briggs Type Indicator (MBTI) has been administered to a large number of people to determine their personality types. On the basis of this test a number of persons have been designated as either thinking or feeling types and have been given a questionnaire concerning their attitudes toward extrasensory perception. Each person has received a score on the questionnaire reflecting the degree of his or her belief in ESP, with higher scores reflecting more positive attitudes about ESP. The scores are as follows:

|  |  |
| --- | --- |
| Group Thinking | Group Feeling |
| 8 | 20 |
| 7 | 18 |
| 7 | 15 |
| 5 | 15 |
| 3 | 14 |
| 1 | 12 |
| 0 | 6 |
| 0 | 5 |
|  | 4 |
|  | 1 |

Compare the groups, and tell what your decision means in the context of the exercise.

4)The quality of articles from the most recent issue of four different professional sociology journals has been rated, with higher numbers representing higher ratings. The results are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Journal A | Journal B | Journal C | Journal D |
| 12 | 45 | 20 | 37 |
| 10 | 43 | 13 | 35 |
| 9 | 42 | 11 | 28 |
| 9 | 41 | 8 | 27 |
| 8 | 36 | 6 | 20 |
| 7 | 25 | 5 | 13 |
| 3 | 23 | 4 | 10 |
| 2 | 15 | 1 |  |
|  | 10 |  |  |

Determine whether the differences are significant. Carry the division of 12/[N(N+1)] to at least 5 decimal places.

7) Using the MBTI mentioned in Exercise 2, researchers have identified a large number of students classified as feeling types. From this group, 14 persons expressing a strong belief in ESP on a questionnaire have been shown a film presenting a very negative view of ESP’s validity. Before and after scores on the ESP questionnaire are listed here:

|  |  |  |
| --- | --- | --- |
| Student | Before Film | After Film |
| 1 | 20 | 22 |
| 2 | 18 | 13 |
| 3 | 15 | 15 |
| 4 | 15 | 18 |
| 5 | 17 | 16 |
| 6 | 16 | 14 |
| 7 | 14 | 10 |
| 8 | 25 | 28 |
| 9 | 10 | 10 |
| 10 | 12 | 13 |
| 11 | 17 | 23 |
| 12 | 15 | 11 |
| 13 | 13 | 17 |
| 14 | 10 | 10 |

Test the null hypothesis, and tell what your result means in the exercise context.

9) An investigator wants to learn whether there are occupational differences in self ratings on a scale of sociability. Eight salespeople, 10 delivery persons, and 7 of the office staff rate themselves on a 20 item scale of sociability. The ratings are as follows:

|  |  |  |
| --- | --- | --- |
| Sales | Delivery | Office |
| 17 | 18 | 18 |
| 15 | 16 | 13 |
| 14 | 15 | 10 |
| 13 | 14 | 9 |
| 12 | 11 | 8 |
| 10 | 10 | 8 |
| 5 | 10 | 5 |
| 4 | 9 |  |
|  | 5 |  |
|  | 3 |  |

Compare the groups on the sociability ratings, and tell what your result means in the context of the exercise.