Lab 5 – Chi Square
Sakai Question/Answer key

1. In the SPSS Chi Square output, the "Residual" column in the table is equal to: Observed minus expected.
2. A) According to SPSS, the Chi Square value for number of babies born on each day of the week is 15.240. This is an exact P-value of 0.018.
   B) Using a Chi Square statistical table, the P-value would be estimated to be less than 0.025 but greater than 0.010.
3. A) Using the binomial test, the exact P-value for the proportion of female birds caught following a wind storm was 0.0014.
   B) Using the Chi Square test, the estimated P-value was 0.0011.
4. A) The "not like me" data has a Chi-square value of 2.05.
   B) There are 4 degrees of freedom.
   C) The P-value is 0.727.
5. Howell's hypothesis that individuals sort descriptive statements into piles of approximately 10%, 20%, 40%, 20%, and 10% is supported by the data.
6. According to a Poisson distribution with a mean of 2.4, the probability of 0 patients admitted between 7 and 8pm on Friday night is 0.091. The probability of 4 patients admitted is 0.125.
7. Truffles are randomly located around the forest. False
8. A) If parasite infection and getting eaten by birds were independent, we would expect 15.7 highly infected fish to be eaten by birds.
   B) The Chi-Square value for infection and fate is 69.8.
9. The P-value for association between the origin of the fries (hatchery or wild) and fry survival is 0.006 according to the Pearson Chi-Square test, and 0.008 according to Fisher's Exact test.
10. The odds ratio for developing depression with a C-section vs vaginal birth is 1.31. The relative risk for developing depression with a C-section vs. vaginal birth is 1.27.
11. According to a Fisher's exact test, there is a statistically significant association between depression and delivery method. False
12. According to the hear failure data, we reject the null hypothesis that patients with heart failure are admitted equally of every day of the week.
13. According to a Chi-Square test, we REJECT the null hypothesis that the incidence of cats with feline high-rise syndrome is equally distributed across all twelve months of the year. True
14. There is a statistically significant association between MS and CCSVI. False
15. A) The odds ratio for finger defects with maternal smoking compared to non-smoking is 1.31, with a 95% confidence interval of 1.19 to 1.44.
    B) The relative risk for finger defect with smoking is 1.19.

16. The association between finger defects and maternal smoking is statistically significant.
   True