**1) Chapter 7, question 18 A&B. Describe your results in a single complete sentence.**

1. The best estimate of the proportion of students in the population who noticed the woman in the gorilla suit is the sample proportion (p) is 0.42.
2. The 95% confidence interval for the proportion of students in the population who notice the woman in the gorilla suit is 0.19>p>0.68

**2) Chapter 7 question 21 A, in a single complete sentence describe the estimated success rate with uncertainty. 21 B, in a single complete describe the results of your hypothesis test.**

1. The estimated success rate of receiver identifying the correct card is 0.4 with SE of 0.15.
2. Receivers identified the cards correctly in 40% of the random trials, which is compatible with the null hypothesis that receiver does not have telepathic ability (0.4, Agresti-Coull 95% CI= 0.16-0.68; binomial test, *p*=0.12).

**3) Chapter 7 question 21C**

1. The apparent contradiction is due to the difference in sample size, as sample size increases the precision increases too.

**4) Chapter 8, question 11. This question is asking you to indicate the appropriate mathematical distribution to describe the null hypothesis: binomial or poisson.**

1. Poisson
2. Binomial
3. Binomial
4. Poisson
5. Poisson
6. Binomial

**5) Chapter 8 question 12C. Please note that you will need to do parts A and B to generate C.**



c) The frequency of individuals with 0, 1 and 2 copies of white alleles do not follow a binomial distribution (X2= 14.761, df=2, *p-*value=0. 0006234)

**6) Using the data presented in Chapter 8 question 12, test the hypothesis that your observed values are consistent with the a probability model predicted by the binomial distribution. If you are a population geneticist, you are asking if the genotype frequencies are consistent with Hardy Weinberg Equilibrium.**

The frequency of individuals with 0, 1 and 2 copies of white alleles does not follow a binomial distribution (X2= 14.761, df=2, *p-*value=0. 0006234)

**7) Chapter 8 question 17. Please report your results in one or more complete sentences.**

Truffles are not randomly located around the forest (X-squared = 116.78, df = 3, p-value < 2.2e-16). Since variance > mean number of truffles per plot (0.958 >0.6), distribution of truffles is clumped together.

**8) Chapter 9 Question 20A. Be as specific as you can about the type of study.**

A) This is a case control study (observational study).

**9) Chapter 9 Question 20 C&D Describe your results in a single complete sentence. Please also use hypothesis testing to determine whether there is a relationship between socialization and ALL, and describe your results in a single complete sentence.**

C and d) Children with social activity exhibits lower odds of having ALL than children without significant social activity (OR = 0.67; 95%CI = 0.247-0.552).

Probability of having ALL was dependent on the amount of social activity in children. (X-squared = 24.374, df = 1, p-value = 7.932e-07).

**10) Chapter 9 question 24 C&D. Please report your results in one or more complete sentences. It is fine for you to skip calculating the confidence interval on the relative risk.**

C) Fertility of the flies were dependent upon the location from where they were collected (X-squared = 4, df = 1, p-value = 0.0455).

d) The relative risk of sterility in Indian population compared to population in France is 0.67.