Chapter 2

1. The degree to which a statistical model represents the data collected is known as the:
    a. Fit.*
    b. Homogeneity.
    c. Reliability.
    d. Validity.
2. Which of the following is true about a 95% confidence interval for the mean of a given sample:
    a. 95 out of 100 sample means will fall within the limits of the confidence interval.
    b. There is a 95% chance that the population mean will fall within the limits of the confidence interval.
    c. 95 out of 100 confidence intervals will contain the population mean.*
    d. There is a .05 probability that the population mean falls within the limits of the confidence interval.
3. What is *p* the probability of?
    a. *p* is the probability that the results are due to chance, the probability that the null hypothesis (H_0) is true.
    b. *p* is the probability of observing results as extreme as (or more extreme than) observed, if the null hypothesis (H_0) is true.*
    c. *p* is the probability that the results are not due to chance, the probability that the null hypothesis (H_0) is false.
    d. *p* is the probability that the results would be replicated if the experiment was conducted a second time.
4. A Type I error is when:
    a. We conclude that there is an effect in the population when in fact there is not.*
    b. We conclude that there is not an effect in the population when in fact there is.
    c. We conclude that the test statistic is significant when in fact it is not.
    d. The data we have entered into **R** is different than the data collected.
5. If we calculated an effect size and found it was $r = .21$, which expression would best describe the size of effect?
    a. Small.
    b. Small to medium.*

c. Large.

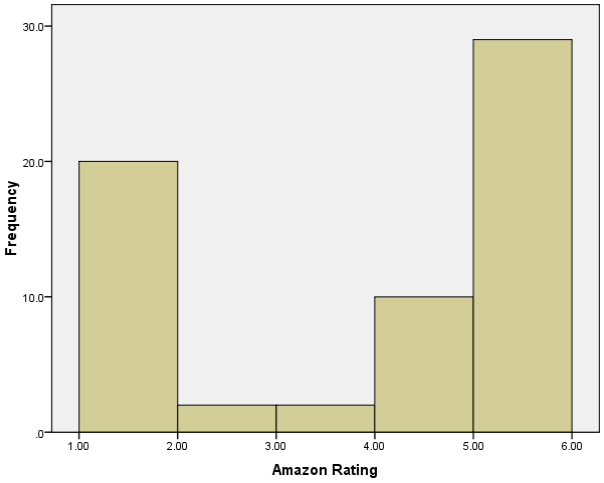
d. Medium to large.

Below is a frequency distribution from www.amazon.co.uk of a CD called *Some Loud Thunder* by an artist called 'Clap Your Hands Say Yeah' (13 customer reviews):

5 star: (3)
4 star: (6)
3 star: (2)
2 star: (1)
1 star: (1)

6. Using the data in the frequency distribution, what is the mode of the data?
    a. 4.00*
    b. 3.69
    c. 1.00
    d. 3.45
7. Using the data in the frequency distribution, what would be our estimate of the standard deviation in the population?
    a. 1.29
    b. 1.40
    c. 1.14
    d. 1.18*
8. Using the data in the frequency distribution, what is the range of the data?
    a. 5
    b. 4*
    c. 3
    d. 1
9. What is the relationship between the sum of squared errors (SS), the sample size (n) and the variance (s^2)?
    a. $SS = s^2/(n - 1)$
    b. $s^2 = SS/(n - 1)$*
    c. $s^2 = SS(n - 1)$
    d. $n = (s^2/SS) - 1$
10. Below is a histogram of ratings of Britney Spears's CD *Britney*. What can we say about the data from this histogram?
    a. The data are normal.

b. The data are approximately bimodal.*

c. The median rating was 2.

d. The data are leptokurtic.