1. b) Total Variation = Residual Variation + Regression Variation
2. c) binomial
3. a) 2
4. (a) Type-I error
5. a) Power of the test
6. (b) Increases
7. b) Hypothesis
8. (b) Minimize false positives
9. (a) 0

10.Bayes theorem is what allows us to go from a sampling (or likelihood) distribution and a prior distribution to a posterior distribution.

11.Simply put, a z-score (also called a standard score) gives you an idea of how far from the mean  a data point is. But more technically it’s a measure of how many standard deviations below or above the population mean a raw score is.

A z-score can be placed on a normal distribution curve. Z-scores range from -3 standard deviations (which would fall to the far left of the normal distribution curve) up to +3 standard deviations (which would fall to the far right of the normal distribution curve). In order to use a z-score, you need to know the mean μ and also the population standard deviation σ.

12.A t-test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups, which may be related in certain features. It is mostly used when the data sets, like the data set recorded as the outcome from flipping a coin 100 times, would follow a normal distribution and may have unknown variances. A t-test is used as a hypothesis testing tool, which allows testing of an assumption applicable to a population.

13.Percentile: the value below which a percentage of data falls.

14.Analysis of variance (ANOVA) is a statistical technique that is used to check if the means of two or more groups are significantly different from each other. ANOVA checks the impact of one or more factors by comparing the means of different samples.

15.We can use ANOVA to prove/disprove if all the medication treatments were equally effective or not.