**STATISTICS WORKSHEET- 6**

1. d)
2. a)
3. a)
4. c)
5. a)
6. d)
7. c)
8. b)
9. b)
10. Histograms indicate the whole frequency distribution of a variable, whereas the boxplot summarises its most prominent features. These features include median and spread as well as the extent and nature of departures from symmetry, and the possible presence of observations having extreme values .
11. key metrics should always be closely tied to your primary objective.

Good metrics measure progress, which means there needs to be room for improvement.

1. To assess statistical significance, you would use hypothesis testing. The null hypothesis and alternate hypothesis would be stated first. Second, you’d calculate the p-value, which is the likelihood of getting the test’s observed findings if the null hypothesis is true. Finally, you would select the threshold of significance (alpha) and reject the null hypothesis if the p-value is smaller than the alpha — in other words, the result is statistically significant.
2. Exponential distributions do not have a log-normal distribution or a Gaussian distribution. In fact, any type of data that is categorical will not have these distributions as well. Example: Duration of a phone car, time until the next earthquake, etc.
3. Income is the classic example of when to use the median instead of the mean because its distribution tends to be skewed.
4. The likelihood is the probability that a particular outcome is observed when the true value of the parameter is , equivalent to the probability mass on ; it is not a probability density over the parameter .