Statistics Worksheet 6

1. D)
2. A)
3. A)
4. B)
5. C)
6. B)
7. C)
8. B)
9. B)
10. A histogram is a type of bar chart that graphically displays the frequencies of a data set. Similar to a bar chart, a histogram plots the frequency, or raw count, on the Y-axis (vertical) and the variable being measured on the X-axis (horizontal).
A box plot is a chart that graphically represents the five most important descriptive values for a data set. These values include the minimum value, the first quartile, the median, the third quartile, and the maximum value. When graphing this five-number summary, only the horizontal axis displays values.

11. How to select metrics:
Step 1: Define your governing objective
Step 2: Develop a theory of cause and effect to assess presumed drivers of the objective.
Step 3: Identify the specific activities that employees can do to help achieve the governing objective.
Step 4: Evaluate your statistics.

12. Following are the steps to assess the statistical significance of an insight:
i)   Create a null hypothesis.
ii)   Create an alternative hypothesis.
iii)   Determine the significance level.
iv)   Decide on the type of test you'll use.
v)   Perform a power analysis to find out your sample size.
vi)   Calculate the standard deviation.
vii)   Use the standard error formula.
viii)   Determine the t-score.
ix)   Find the degrees of freedom.
x)   Use a t-table.

13. The simplest example is the distribution of numbers that show up on the top of a fair die after a large number of throws. Each number from 1 to 6 will occur with approximately equal frequency. Increasing the number of throws will not tend to produce a bell-shaped histogram, in fact the fractional occurrence will approach a constant 1/6 over the possible numbers.
14. When judging MBA colleges based upon placement, it is always better to use median placements instead of mean as the highest placement packages can largely alter the mean but median remains unchanged.
15. Likelihood is used to generally maximizing the chances of a particular situation to occur.