I need assistance in understanding how to work statistics problems.  Please review the attachments for data sets.

I need step by step details using **Kruskal-Wallis** Test and how work was done in **words of interpretation** (that helps explain the results and what it represents) **and in EXCEL** so that I can understand these types of problems in future problems.

\*\*If charts are use please provide the information  if possible on Excel Spreadsheet so I can see how it was done but it can’t provide the chart anyway and I will try and figure it out.\*\*

I need help in the following using **Kruskal-Wallis Test** to answer the following (must be in words of interpretation and in **Excel** (with formulas)):

**"Is there any difference in the batting average of American League divisions and National League divisions in MLB baseball**? "

**Must answer do the below information to answer the question.**

**1) Interpret the results of your test, and explain the differences, if any, that you observe from your Week Three paper.**

Helpful Notes

Hypothesis tests are parametric tests when they assume the population follows some specific distribution (such as normal) with a set of parameters.

Nonparametric tests, on the other hand, are employed when certain assumptions cannot be made about the population. Rank or ordinal data usually require nonparametric analysis.

Nonparametric tests are also referred as distribution-free methods. Since they make fewer assumptions, they are more robust than their corresponding parametric ones.

'Is there any difference in the batting average of American League and National League baseball?

**Descriptive statistics:     These are numbers that are used to consolidate a large amount of information. Any average, for example, is a descriptive statistic. So, batting averages, average daily rainfall, or average daily temperature are good examples of descriptive statistics.**

**Statistics is “The mathematics of the collection, organization, and interpretation of numerical data, especially the analysis of population characteristics by inference from sampling."**

**Statistics are often presented in an effort to add credibility to an argument or advice. You can see this by paying attention to television advertisements. Many of the numbers thrown about in this way do not represent careful statistical analysis. They can be misleading, and push you into decisions that you might find cause to regret. For these reasons, learning about statistics is a long step towards taking control of your life. (It is not, of course, the only step needed for this purpose.)**

**Statistics are divided into two main areas: descriptive and inferential statistics.**

**Descriptive statistics:     These are numbers that are used to consolidate a large amount of information. Any average, for example, is a descriptive statistic. So, batting averages, average daily rainfall, or average daily temperature are good examples of descriptive statistics.**

**Inferential statistics:  inferential statistics are used when we want to draw conclusions. For example when we want to determine if some treatment is better than another, or if there are differences in how two groups perform. A good book definition is using samples to draw inferences about populations. More on this once we define samples and populations.**

**The interpretable operations on a given set of scores are dependent on the level of measurement achieved.**

**Type of Measurements**

***Nominal or Categorical Scale:***

***The objects being studied are grouped into categories based on some qualitative trait.***

*** The resulting data are merely labels or categories.***

Measurement at its weakest level exists when numbers or other symbols are used to classify an object,

person, or characteristics.

We can test hypothesis regarding the distribution of cases among categories using Non-Parametric Tests such

as the Chi-Square test or by using a test based upon the binomial distribution.

 ***Ordinal Scale or Ranking Scale***

 A categorical data in which ***order*** is important. It may happen that the objects in the category of a scale are not only different from the objects in the other categories of that scale but also stand in some kind of relation to them.

**Example: Always, Sometimes, Often, Not at all**

***Interval Scale***

When a scale has all the characteristics of an ordinal scale, and when in addition the distances or differences between any two numbers on scale have meaning, then measurement considerably stronger than ordinal has been achieved in the sense of an interval scale.

All of the common parametric statistics (means, standard deviations, etc.) are applicable to the data in an interval scale. If all of the assumptions of the parametric test are appropriately met, then the researcher should utilize parametric tests. I should be noted that an interval scale is necessary but not sufficient for use of a parametric test involving normal distribution.

***Ratio Scale***

The objects being studied are “measured” based on some **quantitative** trait.

The resulting data are set of real numbers.

Any parametric test is usable when ratio measurement has been achieved and the additional assumptions concerning the distribution are met.