**BUSN 340 Business Statistics  
Minor Project**

**Please solve the following problems using the baseball data file located in the Week 3 Course Content folder of Blackboard. A summary of your responses should be uploaded in Blackboard using the link in the week 3 minor project folder.**

**1. Refer to the baseball data in the Week 3 Course Content folder in Blackboard. Consider the following variables:**

**1. Number of wins  
2. Payroll  
3. Season attendance  
4. Whether the team is in the American or National League  
5. The number of home runs hit**

**A.) Which of these variables listed above (1-5) are quantitative and which are qualitative?**

**B.) Determine the level of measurement (nominal, ordinal, interval, or ratio) for each of the variables listed above (1-5).**

**2. Refer to the baseball data that reports information on the 30 Major League Baseball teams for the 2010 season. Create a frequency distribution for the team payroll variable and answer the following questions.**Minitab: Stat – Basic Statistics – Display Descriptive Statistics – Variables: Payroll, then click the Statistics button: select mean, minimum, maximum, & range, ok, then select the Graphs button: Histogram of data with normal curve, ok, ok  
  
Minitab: Stat – Tables – Tally Individual Variables, Add the Payroll to the variables area, Display: Cumulative percents, ok  
  
SPSS: Analyze – Descriptive Statistics – Frequencies – Variables: Payroll, then click the Statistics button: select mean, minimum, maximum, & range, Continue, ok  
  
SPSS: Graphs – Graphboard Template Chooser – Select Payroll – Select histogram with Normal Distribution, ok

**A.) What is the average payroll for the team? What is the range (minimum and maximum) of the payroll?**

**B.) Comment on the skewed shape of the distribution. Is the distribution positively or negatively skewed? Does it appear that any of the teams have a payroll that is out of line with the others? Which teams are classified as outliers?**

**C.) Create a cumulative frequency distribution table. Thirty percent of the teams have a payroll of less than what amount? About how many teams have total payroll of less than $100,000,000?**

**3. Find the mean and standard deviation of team payroll for the 14 American League and the 16 National League teams. Does there appear to be a difference in the means? Is there a difference in the dispersion for team payroll between the two leagues?**

Minitab: Graph, Histogram, With Fit and Groups, ok, Graph variable: Payroll, Categorial variables for grouping (0-3): League, check “Graph variables form groups”, ok

SPSS: Analyze – Compare Means – Means – Dependent List: Payroll, Layer 1 of 1: League

**4. Draw a scatter diagram with the variable Wins on the vertical axis and Payroll on the horizontal axis. What are your conclusions?**

Minitab: Graph – Scatterplot: With Regression, ok, y variables = wins, x-variables = payroll, ok

SPSS: Graphs – ChartBuilder – ok, Choose from: Scatter/Dot: select first option “Simple Scatter” and drag to chart preview area, drag payroll to x-axis and wins to y-axis, select ok to publish chart

**5. Using the variable Wins, draw a dot plot. What can you conclude from this plot?**

Minitab: Graph – Dotplot: Simple, ok, Graph variables = wins, ok

SPSS: Graphs – ChartBuilder – ok, Choose from: Scatter/Dot select the “Simple Dot Plot” option and drag to the chart preview area: then drag the wins variable to the x-axis, select ok to publish chart