Group Task

Chicago Magazine wants to write a story about the experiences of travelers who fly out of Chicago. They have heard complaints about arrival delays for each of the airlines that depart from Chicago. The magazine wants to decide whether the airlines can be considered to be equally unreliable or if any airline is doing a better job in getting their passengers to their destinations on time. The editor-in-chief of the magazine has contacted your group to help provide information for their article. She wants to focus on two regional airlines, Mesa and American Eagle, that fly out of Chicago. The editor has obtained FLIGHT ARRIVAL DELAY time data, based on flights that departed from Chicago in 2008, for your group to analyze in order to address the following questions:

1. Is there a difference in the reliability as measured by arrival time delays for these two regional airlines out of Chicago? Or are both airlines pretty much the same in terms of their arrival time delays?
2. If there are differences, are these differences consistent from city to city?
3. Are any differences you find large enough to influence travelers so that they are advised to choose one airline over the other (all other factors, like cost, being equal)?

PART I: Examine the Data

1. Examine the arrival time delays for the two airlines using data collected from one city. The data can include negative numbers–which indicate the number of minutes that an airline arrived earlier than its scheduled arrival time.

2. Come up with *at least 5 numerical measures* that can be used to compare the two airlines based on these data.

3. Describe in words what each of your measures would indicate about an airline's reliability. These descriptions should be written so that a traveler can easily understand what they are measuring.

PART II: Develop a Method

4. For each of your measures, decide how big a difference a traveler would need to see between the two airlines to say that the difference is meaningful enough so that it would be worthwhile to choose one airline over the other (based just on the arrival delay times). Explain why you would find this difference meaningful.

5. Use TWO or more of your measures to *develop and state a single rule* that another person can apply to data from two airlines to determine whether or not these airlines differ enough in their reliability that it is worthwhile (or practical) to choose one over the other.

PART III: Apply Your Rule

6. Using data collected from four other cities for these same two airlines, apply your rule to each city. Adapt or modify your group's rule as you need to. This may include small changes or adding to or changing the measures that you used in your initial rule.

7. Use the results from the application of your rule to the data from each of the five cities, answer the editor's questions. (See the summary instructions below.)

PART IV: Summary and Response

Write a report that summarizes your group's findings to the editor-in-chief of *Chicago Magazine*. Begin your report with a summary of the rule you used to analyze the data from the five cities. Make sure your rule (method) is described clearly enough that someone reading your report could use your method to compare data for two other airlines. Finally, be sure that your report fully responds to the editor's initial questions:

1. Is there a difference in overall reliability as measured by arrival time delays for these two regional airlines out of Chicago? Or are both airlines pretty much the same in terms of their arrival time delays?
2. If there are differences, are these differences consistent from city to city?
3. Are any differences you find large enough to influence travelers so that they are advised to choose one airline over the other (all other factors being equal)?