NAME:

BLOCK:                   .

I will provide you with some data from my track and field athletes, specifically my shot put throwers. In this LAB, you will be required to complete a statistical analysis of the data to determine which thrower is the "best" thrower on the team.

# *PART 1 - STATISTICAL ANALYSIS*

Your statistical analysis will include the following components:

   (a) An appropriate data table and a frequency histogram of the data for each thrower
   (b) Calculation of the mean, median, mode for each thrower
   (c) A five number summary (min, Q1, median, Q3, max), including a box-whisker plot for each thrower
   (d) Some form of an appropriate graph that allows you to compare the data from the three throwers on the same graph

# *PART 2 – DECISION MAKING & JUSTIFYING*

Once you have completed the required statistical analysis, you must make a decision as to which thrower is the best. First, you must decide upon what it means to "be the best" thrower. Then you will tell me who is the best and WHY you think that they are the best (your reasoning must be STATISTICALLY based!)

# *PART 3 – THE THROWERS' DATA*

| Thrower #1 | 8.74 | 8.94 | 9.66 | 10.01 | 10.01 | 8.43 | 10.25 | 10.14 | 9.04 | 9.30 | 8.69 |
|------------|------|------|------|-------|-------|------|-------|-------|------|------|------|
|            | 8.85 | 9.25 | 9.46 | 10.23 | 8.95  | 9.65 | 8.79  | 10.62 | 9.78 | 9.26 | 9.39 |
| Thrower #2 | 10.39 | 10.86 | 10.94 | 9.00 | 9.15 | 9.35 | 9.35 | 8.25 | 8.85 | 8.95 | 9.10 |
|            | 10.20 | 9.53  | 8.76  | 8.03 | 8.96 | 9.25 | 9.98 | 10.82 | 10.10 | 8.96 | 9.68 |
| Thrower #3 | 8.79 | 9.39 | 9.94 | 11.47 | 9.72 | 8.49 | 9.63 | 9.49 | 9.83 | 8.82 | 9.24 |
|            | 9.13 | 9.56 | 9.94 | 9.75  | 9.12 | 8.96 | 8.83 | 9.25 | 9.38 | 9.62 | 9.98 |

# *PART 4 - REVISING DECISIONS*

Once you have completed your analysis, I will provide with some additional data. You are then required to make an appropriate analysis given the new information and then revise your conclusion, if necessary. Your analysis should include new tables, calculations and graphs. You must be able to STATISTICALLY JUSTIFY your revised conclusion (or your choice to NOT revise your selection.)