Blitz C Analyzing Data

Objectives: Be able to analyze data from a variety of graphs
Find the probability of an event from a graph
Find slope and use it to find the equation to a line
Be able to make a box-and-whisker plot
Be able to find mean, median, mode, and range

Hints to solve problems

1. when reading a pictograph find the legend to find how much each figure is worth
   - To find the percent of increase or decrease use the following equation
     \[ \% \text{ increase/decrease} = \frac{X_1 - X_0}{X_0} \]
     \[ X_1 = \text{the amount after } X_0 \]
     \[ X_0 = \text{the starting amount} \]

2. to find the sample size from a bar graph add up all of the bars
   - to find the probability use the equation \( P(\text{event}) = \frac{\text{what you want}}{\text{what you have (total)}} \)
   - in probability or means add

3. to make a scatter plot draw an axis. The x-axis is for the independent variable. The y-axis is for the dependent variable (the dependent variable is affected by the change in the independent variable).
- To fit a trend line to a scatter plot it is easiest to pick two points that represent the best fit for the data and connect them with a line. You can use the points to find the equation to the line. You can then use this line to estimate other points.

4. - rate of change means slope.
   - to find a regression of a data set you will need to enter the points using the STAT button on your calculator. After you have done this you can choose what type of regression you should run.

5. - when finding the probability using a pie chart simply find what you are interested in and the percentage is your probability
   - or means add

6. - To find the median put all of the numbers in the data set in order from least to greatest. Find the middle number. If there are 2 numbers then add them and divide by 2.
   - To find the lower or upper quartile find the middle number between the median and the lowest number and the median and the highest number.
   - To find an outlier use this equation

   \[
   LQ = 1.5(UQ - LA) \\
   UQ + 1.5(UQ - LQ)
   \]
   - any point below is an outlier
   - any point above is an outlier

7. - To make a pie chart find the sample size (total population). Find the percentage of each group to the total population. To find the internal angles multiply the percentages to 360°.

8. - correlation is how one event affects another.

9. - mean = \( \frac{\text{total}}{\text{number of elements}} \) mode = number most repeated (can be more than one)
   - median = middle number in numerical order
   - range = top number - bottom number.