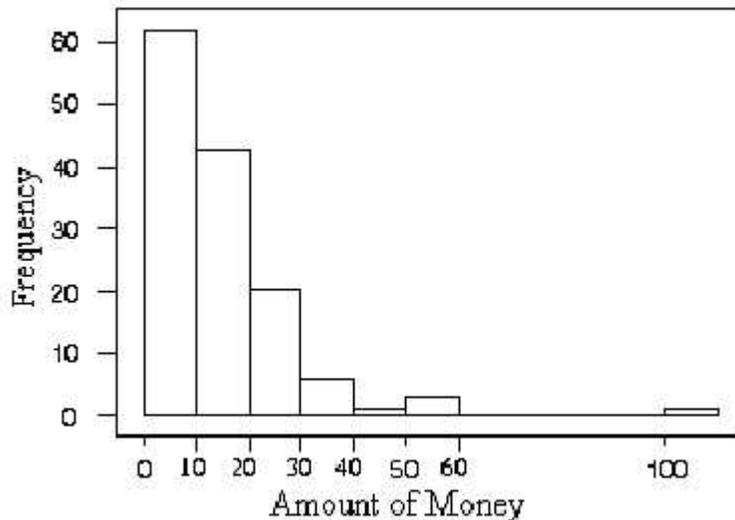


Stat 145: Exam 1 Review Questions

Note: This is not intended to be a preview of the actual exam. Rather, it is meant to give you an idea of the types of questions that will be asked. There are concepts in these review problems that will not appear on the actual exam, just as there will be concepts on the actual exam that are not covered in these review problems.

1. In an introductory statistics class with 136 students, the professor recorded how much money each student had in their possession during the first class of the semester. The histogram below shows the data collected:

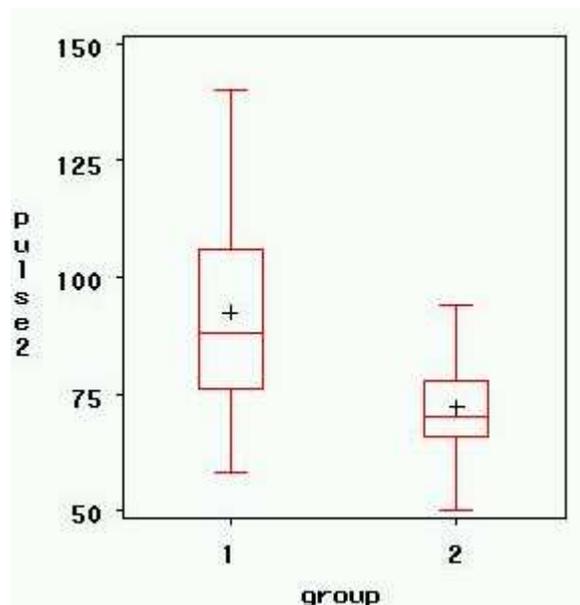


- (a) Approximately how many students had less than \$20 in their possession?
 - (b) Describe the shape, center, and spread of this distribution.
 - (c) If the outlier on the right side of the histogram is removed, will the standard deviation increase, decrease, or stay the same? Explain.
2. Bottles of a popular cola contain, on average, 300 milliliters (ml) of cola. The standard deviation is 3 ml. Assume that the distribution of the contents of the bottles is approximately Normal.
 - (a) What percent of the bottles contain more than 305 ml of cola?
 - (b) What percent of the bottles contain between 297 and 301.5 ml of cola?
 - (c) Fill in the blank: Bottles with less than ___ ml of cola fall in the bottom 25% of the distribution.

3. Three randomly selected Stat 145 students had exam scores of 80, 90, and 100. Calculate the standard deviation of these scores.
4. A pediatrician tested the cholesterol levels of several young patients and was alarmed to find that many had levels higher than 200 mg per 100 ml. The readings of 19 patients with high levels are presented below:

199 200 202 203 207 208 208
 213 212 210 210 210 210 209
 221 218 217 215 214

- (a) Make a stemplot of this data.
 - (b) What is the five-number summary for this data set?
5. Below are side-by-side box plots comparing the pulse rates of those students in an introductory statistics class who ran before taking their pulse rate (group 1) and those who did not run before taking their pulse rate (group 2).



- (a) Which group had the larger median pulse rate?
- (b) Between what two pulse rates do the middle 50% of all students in group 1 fall?