

NAME:

BRONX COMMUNITY COLLEGE
of the City University of New York
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MTH23

Sample Quiz 1

Instructions

Do all problems. If necessary, use additional paper to write your solutions. Label your answers clearly.

1. (10 points) Explain the difference between an observational study and an experiment.
2. (10 points) True or false: for a sample to be a simple random sample, it is only necessary that every individual in the population have an equal chance of being chosen. Explain your answer.
3. (20 points) What are the levels of measurement of these variables in a sample of U.S. residents:
gender
annual income
years of education completed
credit rating (good, fair, or poor).

The following problems involve this small sample of size $n = 12$ containing the following values of a random variable, x :
{7, 12, 15, 31, 10, 15, 23, 26, 29, 30, 34, 42}.

4. (20 points) Draw a histogram of this data, using 4 classes to include the smallest to largest values of x . Label the graph with all the relevant information.
5. (20 points) Draw a stem-and-leaf display of this information.
6. (20 points) A marketing study asked individuals why they liked their favorite brand of coffee. The responses were: Flavor, 12; aroma, 3; wakes me up; 7, gets me through the day, 11.
What level of measurement is the variable being measured in this study? Draw a Pareto chart of this information. Could you draw a histogram of this data? Why or why not?