

Not To Be Taken Out  
Reserve Reading Room

Time: 1 hour

November 3, 2001

MATH 207

Quiz I

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Reserve Reading Room First Semester 01-02

1. Forty-eight of 127 high school graduates had an overall scholastic average of more than 85. A school administrator was interested in comparing satisfaction with life for this group as compared to the rest of the graduates 1 year after graduation. The 127 graduates were asked a year after graduation whether they were satisfied with their lives. Is this a controlled experiment or an observational study? Explain why or why not.

2. For the population 3, 5, 7, 9, 10, 11,
- List all simple random samples of size 3
  - Do all the samples in part (a) have an equal chance of being selected by simple random sampling? Why? What is the chance of selecting the sample 9,10,11?
  - List all systematic samples of size 2.

3. Nixon Corporation manufactures computer terminals. The following data give the number of computer terminals produced at the company for a sample of 27 days.

24	32	27	23	33	33	29	25	28
21	26	31	22	27	33	27	23	29
31	35	34	22	26	28	23	35	27

- Construct a grouped frequency distribution starting with the class  $21 < 24$ . Include relative frequencies (but not midpoints).
- Draw a histogram for the frequency distribution.

4. For the sample 4, 5, 5, 7, 8, 12, 12, 12, 15, 20, 30, do the following:

- Find the mode and the mean.
- Find the range and the standard deviation.
- Make a dot plot of the data values.

5. The following ranked data represents the number of miles driven each day by a salesman over a 24-day period.

33	37	43	44	44	55	58	65	65	66	71	74,
75	75	78	81	81	81	82	84	86	86	87	89

- Find the five- number summary.
- Construct a boxplot of the data.

6. A club contains 30 student members and 10 faculty members. The club can send 8 members in all to a convention. Explain how you would choose a stratified sample with proportional allocation, and explain how you will employ the list of random numbers for that purpose.

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