

Math 107

Exam #/

Name _____

Print Please

Monday Feb. 24, 1997

Student # _____

On my honor, I have neither given nor received unauthorized aid on this exam.

Signature _____

I Use the 8 digits of your student number as a sample
Numbers:

1. Find: (Show calculations)

a) The median of this sample

answer_____

b) The first Quartile of this sample

answer_____

c) The third Quartile of this sample

answer_____

d) The two extremes of this sample

answer_____

e) Determine if there are any outliers

answer_____

2. Use the results of part 1 to draw a box and whisker plot of the data.

II An opinion poll asked a random sample of 2000 American adults if they believe in the Easter Bunny; 400 answered yes. The margin of error for this survey is $\pm 3\%$.

a) What percent of the sample say that they believe in the Easter Bunny?

b) In view of the stated margin of error, what conclusion can be drawn from this survey concerning the percent of all American adults who believe in the Easter Bunny?

III In 1936 the magazine "Literary Digest" mailed out 10 million ballots to their subscribers and asked the recipients to give their choice of Alf Landon or Franklin Roosevelt in the upcoming election. Over 2 million ballots were returned. The result was published and predicted that Landon would win. In November Roosevelt won by a landslide with over 60% of the popular vote.

1. What was the population for this survey?

2. Was the sample representative of the population? Why or why not?

Use your answer to these two questions to give an explanation for the great discrepancy between the survey's prediction and the election result. (Considering that a sample of over 2 million is certainly a large enough sample to ensure accuracy of prediction.)