

NAME: _____

STUDENT ID (if any): _____

GSI (Daniel or Partha): _____

SECTION TIME: _____

Stat 2 midterm
10:00 a.m., Friday 18th July, 2008
Time allowed: 60 minutes

Answer all TWENTY questions. All questions are of equal value (two points).

Please keep written answers brief.

You may refer to ONE double-sided sheet of A4 paper with hand-written notes.

You may refer to a standard normal table.

Unless otherwise stated, you may leave numerical answers as fractions, decimal or percentages (where applicable). Show as many decimal places as is necessary to show your understanding.

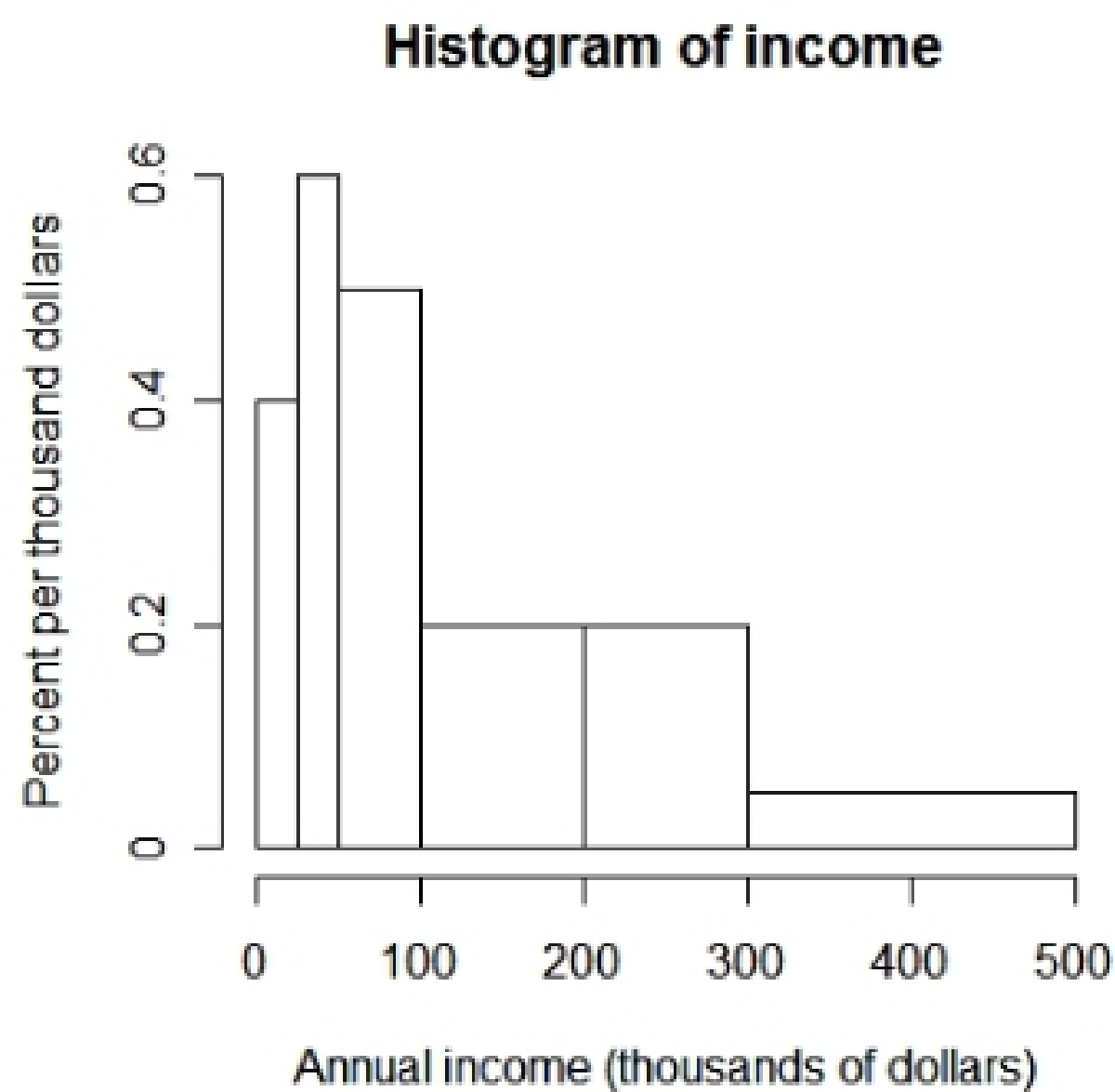
Answer questions 1 and 2 based on the following paragraph.

A researcher wishes to test the effectiveness of an influenza vaccine. A group of patients was randomly divided into a treatment group, which was given the vaccine, and a control group, which received a placebo. Neither the patients nor the nurses and doctors administering the vaccine knew who received the real vaccine and who received the placebo. After 3 months, 60 of 300 patients in the control group had developed influenza, compared to 10 of 300 in the treatment group.

Question 1: Why are the nurses and doctors not told which patients are in each group?

Question 2: From this study alone, can you conclude that the vaccine prevents influenza? If not, why not?

Answer question 3 based on the following histogram of average annual income for a certain population:



Question 3: What percentage of this population earn between \$100000 and \$200000 dollars per year?

Question 4: Find the SD (not the SD+) of the following list of numbers:

3 4 5 6 7