

**E 370 – Spring 2004-05
Sample Exam Three
Statement of Academic Integrity:**

"I swear that I have neither given nor received assistance on this exam and that I will not discuss this exam until all sections have completed it, that is until 13:10 hours on Thursday, February 3, 2005."

I have read and agree with the above statement.

Signature: _____

Name: (please print) _____

Team Number _____

Instructions

- 1) Write your name on every page of your exam.
- 2) Answer the questions in the spaces provided on the exam.
- 3) **You will have exactly 50 minutes to complete this exam.**
- 4) **The value of each question is given by each question. Budget your time accordingly.**
- 5) **Absolutely ALL cell phones must be turned off and out of reach.**
- 6) You must write any EXCEL functions you choose to use, with arguments, as well as the numerical output. For example, =PERCENTILE(A1:A100,20) = 47. Include 4 decimal places in your answer where applicable.
- 7) For any question that does not use an Excel command, you must show your work and explanation to receive full credit. This means we must see what your thought process was as you solved the problem. Don't write volumes; just show your work.
- 8) You may only use EXCEL for this exam. No other calculators or electronic devices of any kind may be on your desk.
- 9) Only the exam, pencils, erasers, and the gold tool cards may be on your desk. Put all the rest of your belongings along the wall or at the front of the room.
- 10) Remember, a student is to avoid even the appearance of cheating. Keep your eyes on your exam or on your computer screen. Any questionable behavior on your part is sufficient reason for your coach to confiscate your exam and ask you to leave the room.
- 11) You may only leave your seat to leave the room. Once you leave your seat, you must turn in your exam.
- 12) When you are finished, you may turn in all pages of the exam and leave the room as soon as you are able to without disturbing your classmates.
- 13) Stay calm and do your best.

The data file provided by your AI contains data on 99 adults' subject initials, ages, weights, heights, Excel Skill Level, number of pets and eye colors. Please answer the following questions using this data set.

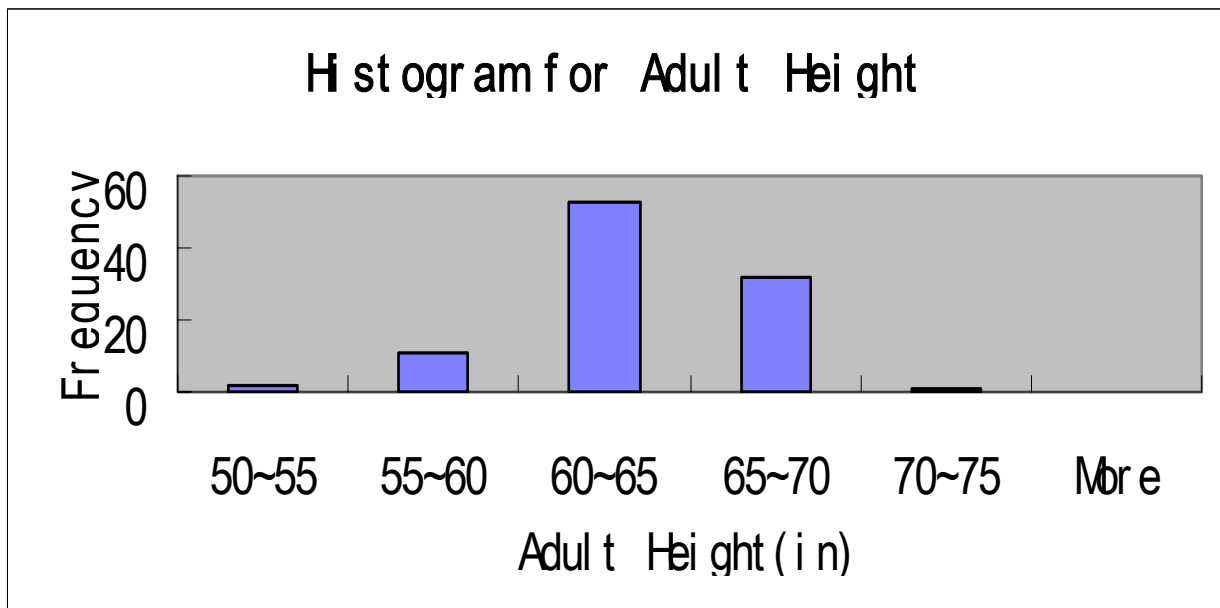
1. Match each term in the left column with its correct classification in the middle column, and then each term in the middle column with its appropriate type of graph in the right column.

Variable	Type and Kind of Data	Appropriate Graphs
Age	Continuous Numerical Data	
Adult Height		Ogive
Adult Weight	Discrete Numerical Data	
Eye Color	Nominal Data	Pie Chart
Excel Skill Level		
Pets Number	Ordinal Data	

2. In order to draw a histogram of “Adult Height”, Sam, one of our E370 students sets up a frequency distribution table as below. Please determine the relative frequency and relative cumulative frequency for class 60~65. (Hint: You may want to draw a histogram using the following classes)

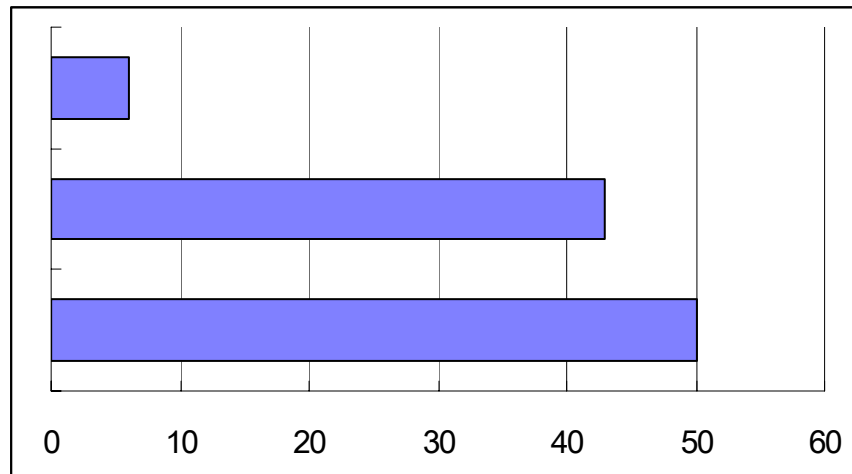
Class Interval	Frequency
50~55	2
55~60	?
60~65	?
65~70	31
70~75	?
Total	99

3. Following is the graph Sam got by using Excel software and he cheers, claiming everything is done. Are there any NECESSARY adjustments which should be done to this graph? If yes, what are they? And Why?

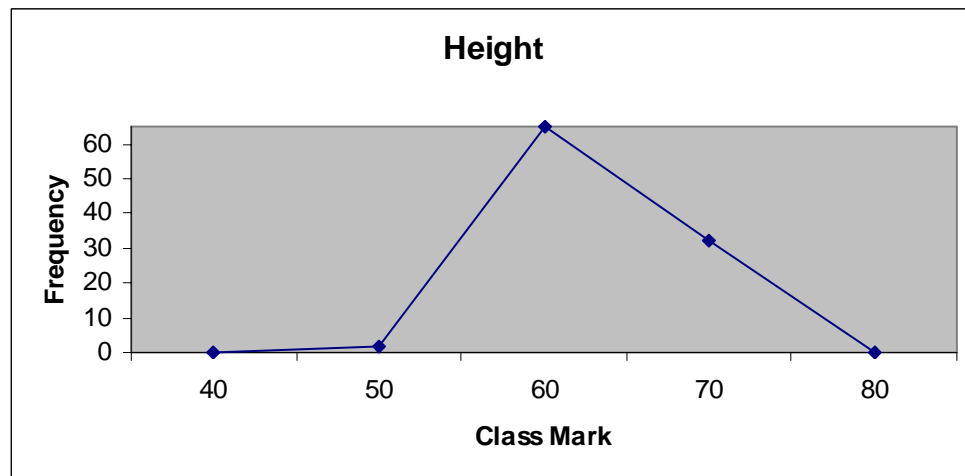


4. Following is the bar chart produced by Excel for the variable “Eye Color”, but the category names were missing. Please add the three category names next to the corresponding bars.

Put Category Names Here:



5. Define which graph is displayed below?



6. Using Excel functions or tools, compute, the relevant measure(s) of center for each of the following variables: Age, Adult height, Adult weight, Eye color. For each variable, specify the measure you look at, the numerical result and the corresponding Excel function or tool you used.

Measures	Age	Adult height	Adult weight	Eye color	How you obtained it

7. Based on your answers above answer the following questions:

- a. What is the average age of an adult in this sample?

- b. What is the age of the person with the median height?

- c. How does the person with the median age compare to the average age of the group?

