

QUANTITATIVE METHODS

Martin Huard

January 19, 2005

Assignment 1

This assignment is due **Monday January 24, 2004**.

Your work in Excel must be printed, and an electronic copy (Excel attachment) sent to me via e-mail.

All assignments must be handed in with a cover page.

Question 1 (6 points)

On Excel, make a sheet having the following characteristics:

	A	B	C	D	E	F	G
1	Quantitative Methods			1			
2	Assignment 1			2			
3	By: Your Name						
4							
5							
6							
7	Last Week's Work Hours for Employees at QM.COM			3			
8							
9	Name	Wage / Hour	Total # of hours	Total Earnings	5		
10	Isaac Newton	\$ 32.50	5	\$ 162.50	9		
11	William Gosset	\$ 31.56	15	\$ 473.40			
12	Thomas Bayes	\$ 17.42	21	\$ 365.82			
13	Pavnutii L. Chebyshev	\$ 29.10	4	\$ 116.40			
14	Karl Pearson	\$ 12.50	9	\$ 112.50	8		
15	Carl Friedrich Gauss	\$ 35.60	42	\$1,495.20			
16	James Bernoulli	\$ 14.30	3	\$ 42.90			
17							
18	<i>Total</i>		99	\$2,768.72	6		
19							
20				7			

1 – Bold size 20.

2 – Size 12.

3 – Bold.

4 – Adjust the column width so that the names all fit well.

5 – Format the cells B9, C9 and D 9 by first shading them, then go to FORMAT – CELLS – ALIGNMENT and click on WRAP TEXT so a check mark appears. Click OK.

6 – Italics and centered.

7 – Use formulas for all the numbers in this column as well as the two totals.

8 – Use the \$ button to see the dollar signs.

9 – Put a thick line.

10 – Align in center all columns except the first one

11 – Replace the name Sheet 1 by “Question 1”.

12 – Save your work under “Assignment 1 – Your Name”.

Question 2 (6 points)

On Sheet 2, create a heading similar to that of the question 1 (The first three lines should be the same and the Sheet should be renamed “Question 2”).

In cell A7 write, in bold 16, “Population 15 years and over by highest degree, certificate or diploma, 2001 Census”.

In cell A8 write, in bold 14, “By Statistics Canada”.

Make a table with the following entries:

Degree, certificate of Diploma	Number	% of Total Population
No degree, certificate or diploma		
⋮		
<i>Total</i>		

The Data is found on the document “Data – Population by Degree” on my web site.

Notes on the table:

1. The titles must have the exact same format (bold, ...).
2. The percentage of the total population must be found using a formula. Let Excel calculate the value. For this, you must first find the total population using the Sum function.
3. I want to see the percentage sign % in column C, each rounded to 1 decimal place.
4. Columns B and C have a right alignment.
5. Reproduce the black lines shown above in your table. (Omit the gray ones.)

Question 3 (3 points)

A QM teacher wants to determine how students evaluate QM once they have completed the course. A random sample of 34 students who have taken QM is taken, where each gives their evaluation for the course with the following scale: poor, acceptable, good, excellent.

- a) Identify the variable.
- b) Is the variable quantitative or qualitative?
- c) What is the implied population?

Question 4 (5 points)

Categorise these measurements according to level: nominal, ordinal, interval, or ratio.

- a) Number of assignments in a QM course.
- b) Program in which students in a QM class are registered.
- c) Attitude of QM students towards statistics: negative, indifferent or positive.
- d) Temperature of the room (in °C) where QM is given.
- e) Length of time spent on the internet yesterday.

Question 5 (5 points)

Categorize the type (simple random, stratified, systematic, cluster, or convenience) of sampling used in each of the following situations.

- a) Average age of QM students: Twelve CEGEP QM classes are selected at random, and the age of each student is recorded.
- b) Proportion of Canadians who think George W. Bush's re-election is the best thing that's ever happened: Subscribers to the magazine "I Love George W. Bush" were asked to complete a poll on the magazine's web site.
- c) Proportion of 1st year students in QM: Assign a number to each student enrolled in QM and use a random number generator to select 20 QM students.
- d) Attitude of QM students towards QM: Every fifth student on the class list is selected to fill a questionnaire.
- e) To judge the interest of a new radio station, a random sample of 10 people from each of three different age categories was selected and those chosen were asked to rate the radio station.