

MAT2379B, Introduction to Biostatistics

Assignment 2

Due date: October 25, 2019, 3 pm

Student Name _____

Student No. _____

- There are 7 questions for this assignment.
- This assignment covers Chapters 3-5.
- You have to drop off your assignments in the assignment box located next to the Help Centre, STEM Complex room 207. There will be a box marked MAT2379B. It is advised that you make a copy of your assignment. No email submission is accepted.
- Late assignments are not accepted.
- Make sure you staple your papers in the upper left hand corner. This way you will not lose any points!
- You should complete ALL the questions in the assignments. However, it is possible that some selected questions are marked.
- Solutions to the assignment will be posted 1-4 days after the due date.
- If you need calculators, I advise you to use the ones that are allowed by the Faculty of Science during the examination: Texas Instruments TI-30 and TI-34, Casio FX-260 and Casio FX-300 (scientific and non-programmable calculators).

Question 1: Problem 4.6 from the textbook.

Question 2: Problem 4.8 from the textbook.

Question 3: Problem 4.14 from the textbook.

Question 4: Problem 5.4 from the textbook.

Question 5: Problem 5.6 from the textbook.

Question 6: Problem 5.12 from the textbook.

Question 7: Depression is a mood disorder which is usually associated with significant mental health problems. In Canada, it is estimated that in the population of ages 15 to 64, 16% of women and 8% of men suffer from depression. According to census data released by Statistics Canada in October 2009, the male population size for the Canadian adults aged 15 to 64 is less than the female population size, and the ratio between the male and the female populations is 0.83.

- (a) What proportion of the Canadian population aged 15 to 64 consists of females?
- (b) What is the probability that a randomly chosen person of age 15 to 64 suffers from depression?
- (c) Is depression independent of gender?
- (d) What is the probability that a randomly chosen person is a female, given that the person suffers from depression?