

STAT1302 – Statistical Analysis II
Assignment #3
Winter 2018
Due Wednesday, April 4, 2018, in class

Instructions:

- Use appropriate notations in your answers.
- Show all steps of your work. Otherwise, part marks will not be given.
- Write neat and clear (e.g., big enough and less cramped up).
- Answer the questions in order AND staple their pages in order.
- Make a photocopy of your assignment for your record.
- There are 5 questions but only 3 (determined after submission) will be marked.
- Solutions will be posted on Nexus after the due date.
- There will be no extension to the due date and late assignments will receive a zero mark.

Q1. Find the critical value of F for the following.

- a) $df = (2, 6)$ and area in the right tail = 0.025
- b) $df = (3, 10)$ and area in the right tail = 0.05
- c) $df = (6, 12)$ and area in the right tail = 0.01

Q2. The following table lists the numbers of violent crimes reported to police on randomly selected days for this year. The data are taken from three large cities of about the same size.

City A	City B	City C
5	2	8
9	4	12
12	1	10
3	13	3
9	7	9
7	6	14
13		

- a) Calculate the between-samples and within-samples variances.
- b) Write the ANOVA table for this exercise.
- c) Using a 5% significance level, test the null hypothesis that the mean number of violent crimes reported per day is the same for each of these three cities. State the underlying assumption(s).