University of Toronto at Scarborough
Department of Computer & Mathematical Sciences

MIDTERM - MATA37 Calculus II for Mathematical Sciences

Examiner: K. Smith, A. Pannu

Date: February 28, 2020

Duration: 110 Minutes

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO.

NOTES:

- There are 10 numbered pages the exam. It is your responsibility to ensure that, at the start of the exam, this booklet has all its pages. The last page is intentionally left blank.

- Answer all questions. Explain and justify your answers.

- **Show all your work**. Credit will not be given for numerical answers if the work is not shown. Do NOT write on the backs of pages as work done on the back of a page will not be graded.

- No cell phones and any type of e-mail or instant messaging devices are allowed to be brought to the exam. Be sure that if you have any, that they are OFF and in your backpack away from you.

- The use of a calculator is **NOT** permitted.

1. [**20 marks**] **TRUE OR FALSE**   Carefully read each statement. If the asserta-
tion must be true, the **circle T** (for true). Otherwise, **circle F** (for false). Justification
is neither required nor rewarded, but a small workplace is given for your rough work.
Each correct answer earns 2 points and each incorrect or blank answer earns 0 points.

(a) **T or F**

(b) **T or F**

(c) **T or F**

(d) **T or F**

(e) **T or F**

(f) **T or F**

(g) **T or F**

(h) **T or F**

(i) **T or F**

(j) **T or F**

2. **[6 marks]**

3. [**7 marks**]

4.

(a) [**5 marks**]

(b) [**4 marks**]

(c) [**7 marks**]

5. [**6 marks**]

6. (a) [**5 marks**]

(b) **[6 marks]**

(c) **[7 marks]**

7. **[9 marks]**

8. (a) [**10 marks**]

(b) [**8 marks**]

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