

UNIVERSITY OF REGINA  
DEPARTMENT OF MATHEMATICS AND STATISTICS  
MATH 110 200730 Quiz 6 (Section 004)

Time: 20 minutes

Instructor: Dr. Edward Doolittle

Name: \_\_\_\_\_

Student #: \_\_\_\_\_

(marks) Please do questions 1 and 2. You have 10 minutes to do each question, for a total of 20 minutes for the quiz. A non-programmable calculator of the type mentioned in the course outline is allowed. If you finish early, I suggest you check your work thoroughly. **Please do not disturb your colleagues by climbing over them while they are trying to write the quiz.**

- (10) 1. Find the absolute maximum and absolute minimum values of  $f(x) = x^4 - 2x^2 + 3$  on the interval  $[-2, 3]$ .

- (10) 2. Use the Intermediate Value Theorem and Rolle's Theorem to show that the equation

$$5x - 3 \sin x + 1 = 0$$

has exactly one real root.