

FIRST NATIONS UNIVERSITY OF CANADA  
DEPARTMENT OF SCIENCE  
MATH110 200930 Quiz 8

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 calculator of the type mentioned in the course outline is allowed.

- (10) 1. Find the critical numbers of the function

$$f(x) = x^3 + x^2 - x$$

and determine whether they are local minima or maxima.

(10) 2. Find the limit

$$\lim_{x \rightarrow -\infty} \left( \sqrt{4x^2 + 9x} + 2x \right)$$