

NAME: _____ STU. NO: _____

Tuesday 5 PM, January 23, 2001

MAT 187H1S Quiz 1

Calculus II

Duration: 30 minutes

Only aids allowed for this quiz: a non-programmable calculator.

Instructions: Present your solutions to the following questions on this sheet, using both sides. Make sure to fill in your name and student number at the top of this sheet.

TOTAL MARKS: 20

1. (10 marks) Let $f(x) = \text{Sin}^{-1}\left(\frac{2x}{x^2 + 1}\right)$. Find

(a) (4 marks) $f(-\sqrt{3})$

(b) (6 marks) $f'(-\sqrt{3})$

2. (5 marks) Find $\int \frac{x+2}{\sqrt{x+5}} dx$.

3. (5 marks) If one-half of a sample of radioactive substance decays in 15 days, then how long does it take for 90% of the sample to decay?