

Department of Mathematics and Statistics

University of Calgary

AMAT 311 L01

Fall 2006

Quiz 1b

Thursday, September 28, 13:00-13:50.

Time: 30 min.

Calculators are not allowed

Name:.....

I agree that this paper may be placed at the front of the classroom for pick-up

Signature:.....

Problem 1. a/ [4 marks] Find general solution of the differential equation

$$y' - y = x.$$

b/ [2 marks] Find the solution of the initial value problem

$$y' - y = x, \quad y(0) = 3.$$

Problem 2. a/ [6 marks] Find a function $y(x)$ such that

$$y' = \frac{y}{1+x^2}, \quad \text{and } y\left(\frac{\pi}{2}\right) = 1.$$

Remark: Evaluate all integrals encountered in solutions to the problems.