Department of Mathematics and Statistics
University of Calgary

AMAT 311 L01
Fall 2006

Quiz 2b
Thursday, October 5, 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. a/ [6 marks] Find general solution of the equation

$$xy' - y = x\left(1 + \frac{y^2}{x^2}\right).$$

b/ [3 marks] Find the value of the arbitrary constant in the general solution in a/ such that $y(x)$ is a solution of the initial value problem

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

c/ [3 marks] Determine the domain of the maximal solution in b/.