

Department of Mathematics and Statistics
University of Calgary

AMAT 311 L01
Fall 2006

Quiz 2a

Monday, October 02, 16:00-16:50.
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 Bernoulli's equation

$$y' + y = xy^{\frac{1}{2}}.$$

b/ [2 marks] Find the value of the arbitrary constant in the solution obtained in the part **a/** such that $y(0) = 0$, and write the expression for y corresponding to this choice of C .

c/ [2 marks] Verify that the function $y(x) = 0$ for all x satisfies the Bernoulli's equation in the part **a/** and the initial condition $y(0) = 0$.

d/ [2 marks] Explain why in this case you can have two different solutions of the same initial value problem.