Name: July 1, 2016 MAP 2302.4787 Cyr

## Quiz 1 You must show all work to receive full credit!!

**Problem 1.** (2 points) Determine whether the relation  $y - \ln y = x^2 + 1$  is an implicit solution to the differential equation

$$\frac{dy}{dx} = \frac{2xy}{y-1}.$$

Problem 2. (3 points) Solve the initial value problem

$$t^{-1}\frac{dy}{dt} = 2\cos^2 y, \quad y(0) = \frac{\pi}{4}.$$