QUIZ 2 SPRING 2009 MAT 127 LECTURE 1

Name: **SB ID:**

1. (a) Verify that for every C the function
$$y = \frac{\ln x + C}{x^2},$$
defined for $x > 0$, satisfies the differential equation
$$x^3 y' + 2x^2 y = 1.$$

   (b) For this differential equation, solve the initial value problem $y(1) = 2$.

2. Find the equilibrium solutions for the following differential equations:

   (a) $y' = x^5 \cos y$

   (b) $y' = 16 - y^2$.