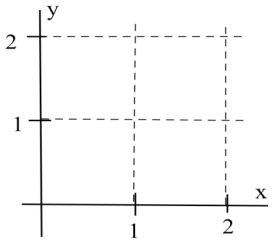
Math 152

Show Your Work! November 14, 2008 Name _____

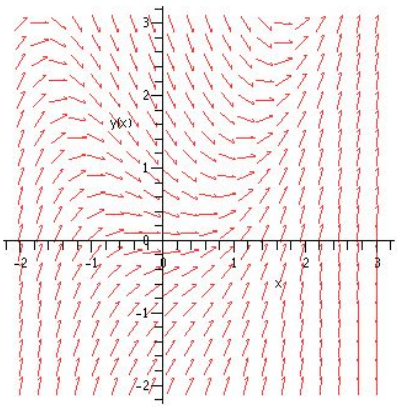
Good Luck! Quiz #5 A (please print)

1. Sketch small "direction arrows" for the differential equation $\frac{dy}{dx} = y' = x^2 - y$ at the three points (1, 1), (2, 1) and (2, 2).



(3)

2. The figure shows the direction field for a differential equation. Sketch the solutions of the DE that go through the points (-2, 0) and (0, -1) (answer is two curves)



(4)

3. Solve $\frac{dy}{dx} = 12x^3 + 3x - 4 \quad y(1) = 10.$

y = _____

(4)

4. Solve $\frac{dy}{dx} = \frac{4x + e^x}{2y} \quad y(0) = 2.$ y = _____

(4)

5. Solve $\frac{dy}{dt} = 3y \quad y(0) = 50$. y = _____

(2)

6. Solve for x: $50 = 10e^{0.315x}$ x = _____ (4 decimal places)

(2)

7. (a) Name one project John von Neumann worked on? _____

(2) (b) Where does David Blackwell teach or what is his specialty? _____