Math 221   2007/10/12   **QUIZ 6**   Name _____

- Show all your work for each problem; show enough work to fully justify your answer.
- Simplify all answers as far as possible.
- All numerical answers must be in terms of actual numbers and standard constants like π and e.

(1) [Points: 10] Find dy/dx at the point (x_0, y_0) on the curve with equation $ax^2 + b^2 y = a^2 b$.

(2) [Points: 10] Solve for u:
  (a) $u^8 - 2u^4 = 0$.

  (b) $u^8 - 2u^4 = y$.

(3) [Points: 10] Is it possible for a function to have a relative extremum where its derivative is not equal to zero? Explain.