Name _____

Homework 20
Section 15.1

1. (6) Find the critical points of $g(x, y) = (x + y)^3 - x^2y^2 + 3$.

2. (6) The critical points of $f(x, y) = x^3 + 4xy^2 - x^2 + 16yx + 7$ are $(-2, -2)$, $(\frac{8}{3}, -2)$, $(0, 0)$, and $(0, -4)$. Classify each as a local maximum, a local minimum, or a saddle point.

3. (8) Find and classify the critical points of $f(x, y) = \frac{1}{2}x^4 - 2x^3 + 4xy + y^2 - 6$.