Name _____

Homework 13
Section 4.1

1. (2ea) Find all critical points of the following functions:

   (a) $f(x) = 3x^5 - 50x^3 + 135x - 87$

   (b) $g(x) = x\left(x^2 - 4\right)^{2/3}$

2. (5) Determine whether the graph of $g(x) = (x^4 - 9x^3 + 36x^2 - 90x + 108)e^x$ has any inflection points. List the x-values of any inflection points.

3. (6) Find and classify the critical points of $f(x) = (4x^2 - 9)^4$.

4. (5) The critical points of $f(x) = \frac{1}{7}x^7 - \frac{6}{5}x^5 + 2x^4 - x^3 + 42$ are $x = -3, 0$, and 1. Classify each critical point as a local maximum, a local minimum, or neither.