Name _____

Homework 23
section 4.1

1. (9) Given the function $f(x) = 3x^5 - 10x^3$,

   (a) On what interval(s) is the function increasing? decreasing?

   (b) What is/are the inflection point(s)?

   (c) List all the critical points of $f(x)$ and state whether they are local minimums, local maximums, or neither.

Use the space below to show your work.

2. (5) Find values of a, b and c so that the function $f(x) = 2x^3 + ax^2 + bx + c$ has a local maximum at the point $(-2, 22)$ and a local minimum at the point $(1, -5)$.

3. (6) Find and classify all critical points of $g(x) = (x^2 - 48)e^x$. Determine whether the graph of $g(x)$ has any inflection points.