Name _____

Homework 13
Sections 4.1 & 4.2

1. (4) 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 $(1, -5)$.

2. (4) Find the critical points of $f(x) = x\sqrt[3]{x^2 - 4}$.

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

4. (6) Find all local and global minimums and maximums of $f(t) = 4t^3 - 3t^2 - 90t + 21$ in the interval $-4 \leq t \leq 6$. List the **coordinates** of each below. If an item doesn't exist, write DNE.

Local minimum _____ Global minimum _____

Local maximum _____ Global maximum _____

_____ Work (which leads to the above answers) should be shown below. _____