

Math 1400
Homework 6
Due Mar 09

Find the local extrema by using the second derivative test for the following functions:

1. $f(x) = x^3 + 9x^2 + 24x + 12$
2. $f(x) = -2x^3 - 9x^2 + 60x - 8$
3. $f(x) = -x^3 + 30x^2$
4. $f(x) = 2 + 6x - x^2$
5. $f(x) = x^3 - 3x^2 - 9x$
6. $f(x) = \sqrt[3]{(2x^2 - 8)^2}$ (Use 1st Derivative Test)

Find the inflection point(s) and the intervals where the graph is concave up and/or concave down:

7. $f(x) = x^3 + 12x^2 - 5x + 12$
8. $f(x) = x^3 - 9x^2$
9. $f(x) = x^4 - 2x^3 - 24x + 12$
10. $f(x) = x^4 - 6x^2$