Math 124 Name _____

#23 Basic Max/Min Problems 4.2

1. Consider the function: $f(x) = -4x^3a - x^2a + 4xa + 9a.$

(a) Find the local maxima and minima. Be sure to establish why each is a max or a min.

(b) Find the points of inflection. Be sure to establish why each is a point of inflection.

2. Consider the function $f(x) = 4x^3 + 7x^2 - 6x + 10$.

(a) Find all local maxima and minima on the interval [-2.5, 1]. Be sure to establish why.

(b) Find all global maxima and minima on the interval [-2.5, 1]. Be sure to establish why.