Consider the function $y = f(x) = x^3 - 3x^2 + 1$

a. (3 Points) Find the asymptotes if any exist.

b. (8 Points) Find the critical numbers.

c. (6 Points) Find intervals where the function is increasing and those where it is decreasing.

d. (6 Points) Find the local maximum and minimum of the function.

e. (7 Points) Discuss the concavity of the function and find the infection points.

f. (10 Points) Sketch the graph of the function. Clearly indicate the **critical numbers**, **extrema** and **inflection points** on the graph.