$$F(x) = x^3 - 2x^2 + x$$

- Use the first derivative test to find any intervals of increase and/or decrease of the function above.

- Find any local extrema using the first or the second derivative test.

- Use the first derivative test to find any absolute extreme values on the interval [-1, 2]

- Use the second derivative test to find any intervals of concavity and points of inflection

Optimization

- A Gardner wants to make a rectangular enclosure using a fence on one side and a 120 meters of fence on the other three sides. Find the dimensions and the area of the largest possible enclosure.