APP-1 Quadratic Models (complete all parts for M, complete 3 parts for P)

A gardener has 290ft of fencing that is to be used to fence in a rectangular garden. The garden will be situated next to the house so one long side of the garden will not be fenced. Additionally the gardener wants to dived the garden in half using the fencing such that the divider runs parallel to two of the sides being fenced. Find the dimensions of the garden that will produce the maximum area.

- a) Define the variable x.
- b) Set up your quadratic model in terms of the variable x.

- c) Define the practical domain for the function found in part b.
- d) Algebraically solve the model.