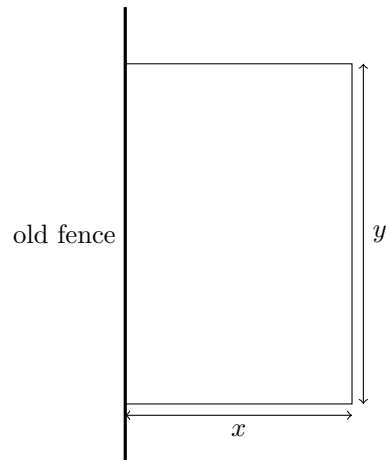


INSTRUCTIONS: Clearly label your variables (if necessary). Always check that any extrema that you have found are of the desired type.

1. Suppose that you wish to build a rectangular garden along an existing fence and you have 120 ft. of fencing with which to enclose your garden. What dimensions will maximize the area of your garden and what is the maximum area?



2. A book is to have pages with an area of  $72 \text{ in}^2$ . The pages are to have 1 in. margins on the sides and 0.5 in. margins on the top and the bottom. What dimensions of the pages will maximize the printed area on a page (the area inside the margins) and what is the maximum printed area?

