

Math 1210-3

Wednesday March 5 3.3-3.4

We're working on Tuesday's notes,

Exercise 3. Let's finish it!

Then discuss 1st and second deriv. tests on page 3 Tuesday.

- to see if critical points are local max's, local mins
(of course, they could be neither.)

then

§3.4 Practical max-min problems

(We need not use all of our tools to answer these questions, just enough of them to get the job done.)

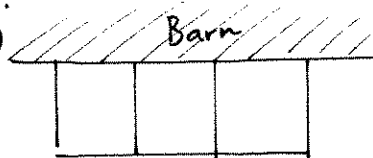
(But we will require a careful explanation of why our sol'n is correct.)

Exercise 1

1a) For a fixed perimeter K , which rectangle of dimensions x and y encloses the largest area?

steps

1b) Farmer Sally wishes to make 3 identical pens, with 120 linear feet of fencing (total), as shown in the diagram. What dimensions for the total enclosure makes the area of each pen as large as possible?
(the barn wall is used for one side.)



Exercise 2 Find the points on the parabola $y = x^2$ closest to $(0, 5)$.

Exercise 3 What is the largest-volume cylinder that can be inscribed in a cone of base radius b and height a , so that the cylinder and cone share an axis, as indicated below?

