LECTURE 21: PRACTICE PROBLEMS

(1) Find two numbers whose sum is 23 and whose product is a maximum.

(2) A piece of wire 12m long is cut into two pieces. One piece is bent into a square and the other is bent into an equilateral triangle. How should the wire be cut so that the total area enclosed is a minimum? a maximum?

(3) Find two positive numbers whose product is 100 and whose sum is minimum.

(4) If 1200 square centimeters of material is available to make a box with an open top and a base that is three times wider than it is long, find the largest possible volume of the box.