

3.7 Optimization Problems

ex. A manufacturer wants to design an open (lidless) box having a square base and a surface area of 108 sq. in.. What dimensions will produce a maximum volume?

ex. A farmer has 400 feet of fence and wants to make 2 congruent rectangular hog lots adjacent to one another. What dimensions will yield a maximum area for the animals?

ex. A rectangle has opposite corners at the origin and on the line $y=-3x+12$. What dimensions will yield a maximum area?

ex. Two towns near the south bank of a straight stretch of river plan to build and share a pumping station so that each has a direct pipeline to the station. Where should the pumping station be located to minimize the amount of pipeline constructed?

