

QUIZ # 8

Math 105-D (Salomone)

November 5, 2008

Show all your work!

Name: _____

Score (30 points possible):

Problem 1. (10 points) Determine the maximum and minimum values of the function

$$f(x) = \ln x - \frac{1}{8}x^2$$

on the interval $1 \leq x \leq 4$. Show all your work, and give *exact* answers (not decimal approximations).

Problem 2. (20 points) On your farm, you raise both wolves and geese. You hope to build two square pens to hold them. If you have a total of 120 feet of fencing to use, what are the dimensions of the pens enclosing the maximum combined area?

