

Name:  
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MAC 2313.6717  
Cyr

Quiz 9

You must show all work to receive full credit!!

**Problem 1.** (5 points) Use Lagrange multipliers to find the maximum and minimum value of  $f(x, y) = xy$  subject to the constraint  $4x^2 + y^2 = 8$ .

**Problem 2.** (5 points) Find the volume of the solid under the surface  $z = 1 + y^2$  and above the region enclosed by  $x = y^2$  and  $x = 4$ .