# HW5 – Theoretical questions

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1. Use Lagrange Multipliers to find the maximum and minimum values of the function subject to the given constraints:
   1. ; constraint: 2

2



So  can’t be a solution

* 1. ; constraint:

Constraint  thus 



 then 

We have 2 Possibilities: , but y=0 is not held by the constraint

We got 

 We get: 

2 Points:

, , Max

, , Min

* 1. ; constraints:

Other combinations of (x,y,z) don’t produce global max

1. Show that any Kernel function is symmetric, i.e.



1. Find the Kernel function for the following mapping:

Answer: 

Proof:





