# 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

* 1. ; constraint:

Constraint  thus 



 Thus:  We get: 

\*Note that we divided by y, so we need to check y=0,@@@@@@@@@@@@@@@@@@@@@

2 Points:

, 

, 

* 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:

Define: 

Proof:

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