Re: number with maximum, minimum

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- *From*: "mina_world" <mina_world@xxxxxxxxxxx>
- *Date*: Mon, 29 Jan 2007 14:23:26 +0900

"Jon Slaughter" <Jon_Slaughter@xxxxxxxxxxx> wrote in message
news:Exevh.36195$QU1.13452@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx

> "mina_world" <mina_world@xxxxxxxxxxx> wrote in message
> news:epjpjj$29f$1@xxxxxxxxxxxxxxxxxxx
>
>> Hello sir~
>>
>> For x, y such that {(x−1)^2} + {(y+1)^2} <= 1,
>>
>> Find M/m with the maximum value M and minimum value m of (x+y+2) /
>> (−x+y+4).
>
> One way is to use lagrangian multipliers.
>
> Your function that you are trying to optimize is f(x,y) = (x+y+2) /
> (−x+y+4).
>
> and your constrant is g(x,y) = {(x−1)^2} + {(y+1)^2} = c <= 1.
>
> Another way is to visualize your function on the disk centered at (1,−1)
> and try to see if it has any "special" properties on that disk. (such as
> if its maximum must be on its boundary).
>
> What you can see is that f(x,y) is undefined at (2,−2) which is ouside
> your disk but its possible that the point closest from the disk to that
> point is a critical point. Ofcourse you would still have to prove this
> though.

Yes, I know the Lagrange multipliers.
But...complex.

> From Df = lambda*Dg,

$\{(2y+6)/\{(-x+y+4)^2\} , (-2x+2)/\{(-x+y+4)^2\} = lamda*(2x-2, 2y+2)$.

How do you progress it ?

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