KFUPM Term(112) Name_____ Serial #_____

MATH 201 Quiz # 4(a) ID # _____ Section # 06

Time: 20 Minutes Marks: / 8

1. Use Lagrange multipliers method to find the maximum and minimum values of $f(x,y) = x - 3y - 1$ subject to the constraint $x^2 + 3y^2 = 16$.

2. Use Riemann sum with $m = n = 2$ and lower left corners as the sample points to approximate values of $\iint_R (x + 2y)dA$ over $R = [0,1]\text{x}[0,1]$.

KFUPM Term(112) Name_____ Serial #_____

MATH 201 Quiz # 4(b) ID # _____ Section # 06

Time: 20 Minutes Marks: / 8

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1. Use Lagrange multipliers method to find 3 positive numbers whose sum is 27 and such that the sum of their squares is as small as possible.

2. Evaluate $\iint_R \cos(x+2y)dA$ over R= $\{(x,y): 0 \le x \le \pi \text{ and } 0 \le y \le \pi/2\}$