

MA 227 §11.7, 12.1-12.2	Quiz #4	score	Name: _____ 12 July 1999
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1. Find all the critical points for the function $f(x, y) = -x^4 + 4xy - 2y^2 + 1$ and for each one determine if it is a relative maximum, relative minimum, or neither. (8 points)

2. The table gives values of a function $f(x, y)$ at various points (x, y) . Use the table to estimate the value of

$$\iint_R f(x, y) dA$$

over the rectangle $[0, 1.5] \times [0, 1]$ using $m = 3$ and $n = 2$. (6 points)

$x \backslash y$	0.00	0.25	0.50	0.75	1.00
0	0	1	2	3	4
0.25	1	2	3	4	5
0.5	2	3	4	5	6
0.75	3	4	5	6	7
1	4	5	6	7	8
1.25	5	6	7	8	9
1.50	6	7	8	9	9

3. Evaluate $\iint_R (x^2y + xy) dA$ over the rectangle $R = [0, 2] \times [0, 1]$. (6 points)