Let  $f(x,y) = x^2 + y^2$  and let  $R = [-4,4] \times [-4,4]$ .

Approximate  $\int \int_R f dA$  by calculating a midpoint sum with 4 subdivisions (in each direction).

Will your answer overestimate or underestimate the integral?

T. Ratliff - Math 236 Mar 26, 2003