

MATH 201, QUIZ #3
Due Monday April 4. (beginning of your class)
Time: 45 minutes

1. (10 points) Sketch the region of integration and reverse the order of integration for the following:

(a) $\int_{-\pi/2}^{\pi/2} \int_0^{\cos x} f dy dx$

(b) $\int_0^1 \int_{-x}^{x^2} f dy dx$

(c) $\int_{-1}^2 \int_{x^2-1}^{x+1} f dy dx$

2. (10 points) Let W be the part of the first octant that lies below $3x + 2y + z = 6$. Set up limits for the triple integral

$$\int \int \int_W f \, dx dy dz$$

3. (10 points) Let R be the region of the plane where $x^2 + (y - 1)^2 \leq 1$. Use polar coordinates to compute

$$\int \int_R x^2 + y^2 \, dA.$$