## (Easier) Practice Quiz 7 Calc 3 11/9/2007

1. Parametrize and give bounds for the portion of the paraboloid  $z = x^2 + y^2$  lying above the rectangle with vertices (0,0), (2,0), (2,3), and (0,3).

x(u, v) = u y(u, v) = v  $z(u, v) = u^{2} + v^{2}$ for  $0 \le u \le 2, 0 \le v \le 3$ 

2. Parametrize and give bounds for the portion of the cylinder with radius 4 centered around the *z*-axis between z = 2 and z = 10.

 $x(u, v) = 4 \cos u$   $y(u, v) = 4 \sin u$ z(u, v) = v

for  $0 \le u \le 2\pi$ ,  $2 \le v \le 10$ 

## (Harder) Practice Quiz 7 Calc 3 11/9/2007

1. Parametrize and give bounds for the rectangle with vertices (3,0,0), (3,2,0), (3,2,5), and (3,0,5).

x(u, v) = 3y(u, v) = uz(u, v) = v

for  $0 \le u \le 2, 0 \le v \le 5$ 

2. Parametrize and give bounds for the right half (i.e. the portion with positive *y* coordinates) of the cylinder with radius *a* and centered on the *x*-axis between x = 0 and x = 5.

x(u, v) = u  $y(u, v) = a \cos v$   $z(u, v) = a \sin v$ for  $0 \le u \le 5, -\pi/2 \le v \le \pi/2$