

Each problem is worth 5 points. Clear and complete justification is required for full credit.

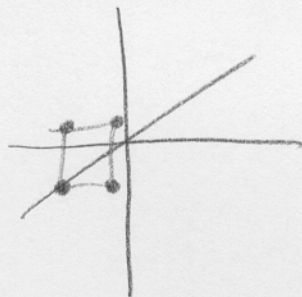
1. Parametrize and give bounds for the rectangle with vertices $(3,0,0)$, $(3,2,0)$, $(3,2,5)$, and $(3,0,5)$.

$$x(u,v) = 3$$

$$y(u,v) = u$$

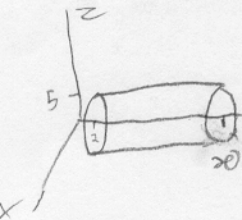
$$z(u,v) = v$$

$$0 \leq u \leq 2 \quad 0 \leq v \leq 5$$



Nice!

2. Parametrize and give bounds for the portion of a cylinder with radius 5 centered on the y-axis between $y = 2$ and $y = 20$.



$$x(u,v) = 5 \cos v$$

$$y(u,v) = u$$

$$z(u,v) = 5 \sin v$$

$$2 \leq u \leq 20$$

$$0 \leq v \leq 2\pi$$

Great!