Parametrizations of standard surfaces:

- Disk: $(u, v) \rightarrow \langle r \cdot ucos(v), r \cdot usin(v) \rangle \quad 0 \leq v < 2\pi, 0 \leq u \leq 1$. r is the radius.

- Elliptical Disk: $(u, v) \rightarrow \langle r_1 \cdot ucos(v), r_2 \cdot usin(v) \rangle$, where r_1 and r_2 are the focal radii....that is to say that the ellipse that is the boundary has the equation $\frac{x^2}{r_1^2} + \frac{y^2}{r_2^2} = 1$.

- Sphere: $(u, v) \rightarrow \langle r \cdot sin(u)cos(v), r \cdot sin(u)sin(v), r \cdot cos(u) \rangle$. r is the radius.

- Graph of surface f(x,y): $(u, v) \rightarrow \langle u, v, f(u, v) \rangle$.

Surfaces bounded by cylinders and cones

- If the cylinder is of the form $x^2 + y^2 = A$, then parametrize, then we realize that the surface we want lies above the disk bounded by $x^2 + y^2 = A$. First parametrize this disk, and use that parametrization to parametrize the surface using the "graph" technique from above.

- If the bounding surface is a cone, attempt to find an equation given the boundary only in x and y, normally an elliptical disk. Parametrize that region, and then use the gragph technique.