TRANSFORMATIONS OF SPHERES

For each item below, find the vector-valued function $\vec{r}(s,t) = x(s,t)\hat{i} + y(s,t)\hat{j} + z(s,t)\hat{k}$, with $0 \leq s \leq \pi$ and $0 \leq t \leq 2\pi$, that gives the specified graph. Specify the ranges for your parameters.

1. the sphere of radius 1 with center at the origin

2. the sphere of radius 5 with center at the origin

3. the sphere of radius 1 with center at $(1,3,2)$

4. the sphere of radius 3 with center at $(0,0,2)$

5. the sphere of radius 3 with center at $(-1,0,1)$