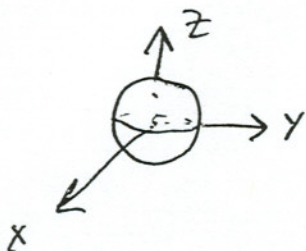241 Fall 01 Exam 1

PRINT Your Name:_____

There are 10 problems on 4 pages. Each problem is worth 10 points. SHOW your work. $\boxed{CIRCLE}$ your answer. **NO CALCULATORS!**
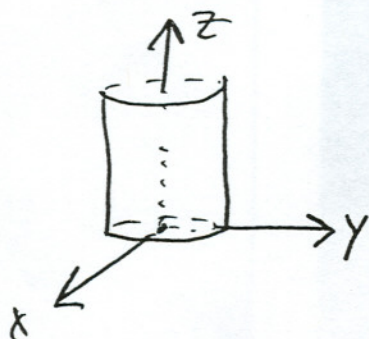
1. Graph and describe the graph of $x^2 + y^2 + z^2 = 1$ in 3−space.

The sphere with center $(0,0,0)$ and radius 1

2. Graph and describe the graph of $x^2 + y^2 = 1$ in 3−space.

The cylinder with the z-axis in its center of radius 1

3. Graph and describe the graph of $x^2 + y^2 = 0$ in 3−space.

If $x^2 + y^2 = 0$, then I have 2 non-negative numbers adding to Zero. Thus X must be zero and Y must be zero. Thus this is the z axis