ESP Quiz 1 (Kouba)

Please PRINT your name here : _____

This quiz is due next Tuesday at the beginning of the ESP class.

1.) (10 pts.) On separate two-dimensional graphs sketch the xz-, yz-, and xy-traces for $z = x^2 - y^2$.

2.) (10 pts.) In the xy-plane sketch a level curve for $z = x^2 + 4y^2$ using $z = 16$.

3.) (10 pts.) Determine and plot the domain for $f(x,y) = \sqrt{9 - x^2 - y^2}$ in the xy-plane.

4.) (10 pts.) Sketch the graph of $x^2 + y^2 = z^2 - 1$ in three dimensional space.

5.) (10 pts.) The two-dimensional graph of $z = y^3 + 2$ is rotated about the z-axis to form a surface in three-dimensional space. Determine an equation for this surface.