

Lab #3

1. Graph the surfaces $z = x^2 + y^2$ and $z = 1 - y^2$ on a common screen using the domain $|x| \leq 1.2, |y| \leq 1.2$ and observe the curve of intersection of these surfaces. Show that the projection of this curve onto the xy -plane is an ellipse.
2. Use Maple to graph each surface. Experiment with viewpoints and with domains for the variables until you get a good view of the surfaces.
 - a. $z = 3x^2 - 5y^2$
 - b. $z^2 = x^2 + 4y^2$
 - c. $z = y^2 + xy$
 - d. $8x^2 + 15y^2 + 5z^2 = 100$

Lab is due Wednesday, December 2. No late labs accepted.