

Let $f(x, y) = 2x + 4x^2 - y^2 + 2xy^2 - x^4 - y^4$

1. Use Maple to create a 3-D plot of the surface $z = f(x, y)$
2. Create a contour plot that captures the vital information about the surface
3. Where does $f(x, y)$ have local maximum and local minimum values?