

Checkpoint: Parameterize space curves

- (a) Write parametric equations for the $z = 36$ contour of the surface $z = 4x^2 + 9y^2$.

Hint: An ellipse is $\left(\frac{x}{a}\right)^2 + \left(\frac{y}{b}\right)^2 = 1$, which means that $x(t) = a \cos(t)$, $y(t) = b \sin(t)$ is probably a good choice.

- (b) Use CalcPlot3D to illustrate that your result is correct.