

Central Forces

Conic Sections

Complete and keep in your notebook

In the Mathematica worksheet, <http://physics.oregonstate.edu/ph426/mathematica/cfconics.nb>, you will examine a two parameter family of curves described by the polar equation

$$r(\phi) = \frac{\alpha}{1 + \epsilon \cos(\phi)}$$

Describe in detail how the shape of the plot depends on the parameters α and ϵ .