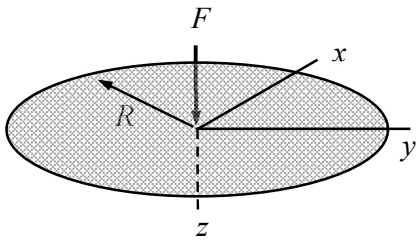
Name_____ Student number_____

Problem 4

A circular plate of radius R, which is simply supported on the outer edge, is loaded by force F at the centerpoint. Use the plate bending mode virtual work density of the Kirchhoff plate model to find the transverse displacement at the centerpoint. Use the approximation $w = a_0(x^2 + y^2 - R^2)$ for the transverse displacement. Material properties E, ν and thickness t are constants.