MATH 63CM HOMEWORK 7

1. Prove that the system

$$x' = 3x - y - xe^{x^2+y^2},$$
$$y' = x + 3y - ye^{x^2+y^2}$$

has a (nonconstant) periodic orbit.

From the text: 5.1, 5.2, 5.3, 5.5.