PHYS 301 HOMEWORK #8

Due: 21 March 2016

1. Problem 8.6, p. 384 all parts

2. 8.18, p. 385. Use Mathematica to draw the vector plot for this velocity field, and also describe the motion of a leaf dropped into the water at the point (1, 0). Describe both the immediate and long - term motion of the leaf.

3. Problem 8.50, p. 395, all parts.

4. Problem 8.56, page 400.

5 Problem 8.68, all parts, use Mathematica to draw the ContourPlot.

6. Mathematica problem : Consider the polynomial

$$p(n) = n^2 - n + 41$$

where n is always an integer. Write a *Mathematica* program to determine the value of p(n) for all values of n from 0 to 40, and print out those values of n for which p(n) is a prime number.