MECH 3140
Homework #3

Problems Using Newtons Methods (by Thursday 9/14/17)
Chapter 4: 4-7, 13-17 (just derive the EOMs), 22-26, 52-54, 56, 65, 69.

When working the given problems using Newton’s Methods get in the habit of answering the following questions
a. What is the order?
b. How many DOF?
c. Does this system reach steady state? If so what is the steady-state value?
d. What are the equivalent mass, damping, and spring constants?
e. Generate the equations of motion
f. Solve the equations of motion for $x(t)$ or $v(t)$ if the differential equations are 1st or 2nd order

*Practice placing the equations into a State Space representation or finding the transfer function between the input and output.*

Problems Using Energy Methods (by Thursday 9/19/17)
Chapter 4: 30, 32, 34-38, 41-42
Consider working these using Newton’s Methods for comparisons