Problem Set #6

Assigned: October 16
Due: October 25

Part I: Watch the "The Relationship Equation" video from Numberphile at the link provided and then answer the following questions.

https://www.youtube.com/watch?v=BkOIw7vAZCQ

1. What part of this discussion did you find most interesting?

2. Is the equation presented in this model of a relationship an example of a differential equation or not? Justify your answer.

3. State the system of equations that define this model and describe what you need to do to develop a solution. This does not mean that you need to provide a solution to these equations. Rather, describe how you would envision going about solving them if you had to or wanted to.

Part II: Complete the following problems in *Classical Mechanics by Fowles & Cassiday*.
6.3, 6.6, 6.7, 6.9 (introductory problems)
6.2, 6.16, 6.17 (challenge problems)