General Method for Solving Word Problems

1. Identify the physical process, and describe it in words.

2. Formulate the mathematical model:

   (a) identify all variables and constants

   (b) draw a picture, a free body diagram and identify the coordinate system (if necessary)

   (c) write down an equation describing the physical process

   (d) formulate equations for the initial condition(s)

   (e) identify values for the physical constants and/or formulate equations for any other conditions given in problem

3. Solve the differential equation.

4. Apply the initial condition(s) to find values for the constant(s) of integration.

5. Use any other conditions found in 2(e) to determine values for the physical constants.

6. Answer any specific questions posed in the problem.