Chapter 1 HW Assignment & Hints (due Mon., January 23, 2012)

Review Questions.

Please answer the following "Review Questions":

1, 2, 4, 8, 9, 14, 15.

These should be pretty easy...just refer to the text.

Problems. Please do the following problems (one from the text and one from me):

Problem 1. Do text Problem 1. This is a simple model of a potentiometer, which can be used as a angular position measurement transducer for either input or feedback signals. Follow the text problem statement.

Problem 2. Draw a functional block diagram for the task of steering an automobile (*i.e.* keeping the vehicle in the center of the lane). Use as many blocks and variables as you wish, but:

- Label each block (inside the block) with the title of that component

- Label each variable (lines connecting the blocks) with a variable name (like "u"), and the UNITS of that variable

- Don't worry about any physical analysis of anything; this is all qualitative

- *Hint:* The reference input will be "desired position in lane" and the output will be "actual position in lane"