

Name _____ Instructor name _____

You must show and explain all work neat and organized to receive credit. Please show each step for calculations. YOU MUST TURN IN THIS SHEET to have your assignment graded.

1. What two conditions must be met for an object to be in static equilibrium? What is meant by the term "lever arm?" (5pts)

2. (a) What is meant by an object's "center of mass"? (b) Do you think the center of mass of the torque bar used in Experiment 4 is at the center of the bar? (c) If not, to which end is it closest, L or R, and why? (Refer to the figure in Experiment 4 to answer this question.) (5 pts)

3. In the drawing to the right, an 87.0 cm long metal bar having a mass of 0.695 kg is supported by two strings, as shown. a) Find the tension in each string. b) Find the center of the mass for the bar relative to the left end of the bar. (10 pts)

