

Name: _____

Physics 200
Prelab exercise 3

Directions: Read over Lab 3 and then answer the following questions about the procedures.

1. How will you know when the ring is balanced in translational equilibrium under the influence of the hanging weights?

2. In a similar experiment, I have predicted that the balancing force will have a magnitude of 232 N and be at a direction of 128° . When I do the experiment I find that the balancing force has a mean magnitude of 240 N with a standard deviation of 3 N, and the ring is balanced over an angle range of 125° - 129° . Does my measurement agree, within experimental uncertainty, with the calculation? Show why or why not.

3. *Prediction:* What is your prediction for Prediction 1-1?

4. A vector with magnitude 4 units at 90° is added to a vector with magnitude 6 units at 180° . What is the magnitude and direction of the sum?

5. An object with mass 160 g hangs at rest from a string attached to a ring. What force, in Newtons, acts on the ring due to this mass?