STATICS LAB **Period____ Name_____**

Purpose: To demonstrate the concept of statics and equilibrium.

Procedure: **A: ForceTable -Perpendicular angles:** - Play around with the table until you find the force and angle that will bring A and B into Equillibrium. Write that down as C. Calculate the theoretical resultant of A & B and place it in as **resultant**. Go on to part B.
B: Force Table - any angle: Your force table will have only **one** correct value for an equilibrant that will keep the ring suspended over the center. Using your force resolution techniques, solve for the mass that needs to be suspended, and the angle at which it should be released. When you are sure your answer is correct, call me and we'll check it on the table.
DATA:

A:

Force	Magnitude (grams)	Direction
A	55	0.00^0
B	75	90.0^0
C		
Resultant		

B:

Force	Magnitude (grams)	Direction
1	125	0.00^0
2	205	155^0
Theoretical Equilibrant		
Actual Equilibrant		

Questions:
1. How does your **resultant** compare with **Force C** in **magnitude**? **Direction**?

2. What is your **resultant** if you add **Force A** to **Force C**?

3. What is your **resultant** if you add **Force B** to **Force C**?

4. Add **Force A** to **B** to **C**. What is your **resultant**? Why?

5. Does it matter what **order** you add your forces in?

6. What happens to the **equilibrium** of the system if you mess up on your angle calculation? Is the angle that important?

7. Why can we use **grams** instead of **Newtons** as the **magnitude** of our force? Which one is really correct?