

# Force Table Lab

$$F_g = mg$$

**Purpose:** *To verify that  $F_{net} = 0$  in a non accelerating system.*

## Part 1

Use 3 different mass amounts on each hanger. Keep this constant for this part of the lab.

Calculate the weight of each full hanger in order to get the force.

Move the pulleys to angles such that the center ring does not move.

**Record the weights and angles.**

## Part 2

Choose 3 different angles (angles must not be equidistant).  
*Keep these angles constant for this part of the lab*

Add masses to the hangars such that the center ring does not move.

**Record the weights and angles.**

## Part 3

Choose two angles and masses (angles must not be equidistant).

Use algebra to calculate the third angle and weight that will bring the system into balance.

Use the force table to test your answer.

Finally, make a scale drawing that shows how the vectors of the three forces add up to zero.

