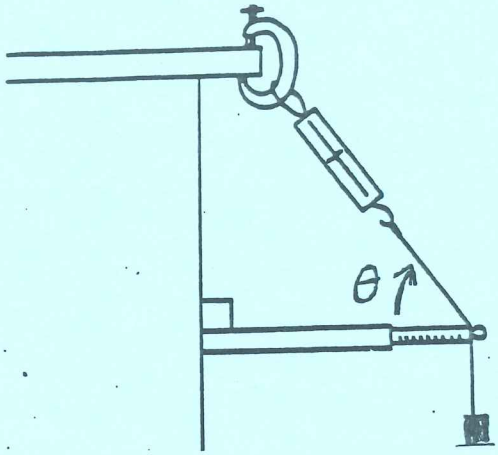
Names _____, _____

Period _____

RESOLUTION OF A FORCE LAB

(OR BOOM LAB)

PURPOSE: Resolve a force into its components (the spring scale reading is the force and the boom and weight hanging are its components), measuring the components, and calculating % errors.



DATA TABLE: pull to

F same cm F COS(Θ) hang F SIN(Θ)

	MEASURED	MEASURED	MEASURED	MEASURED	CALCULATED	% ERROR	MEASURED	CALCULATED	% ERROR
	CABLE TENSION	ANGLE	BOOM TENSION	BOOM TENSION	BOOM TENSION		WEIGHT	WEIGHT	
TRIAL	(N)	(Θ)	(CM)	(N)	(N)		(N)	(N)	

CALCULATIONS: (four of them)

QUESTIONS:

1. For what angle Θ would the cable tension be equal to the load? (Note diagram for Θ)

2. If the angle Θ is made smaller (for a fixed load), would the cable tension increase, decrease, or stay the same?

Conclusion: Discuss results (errors), make two observations about data and/or usefulness of this LAB: