Exp. No. 4
Newton's second law

Name: …….. Grade: ……

Student's No.: …….. Day and Date: ……

Partners Names: …… Sec.: ……

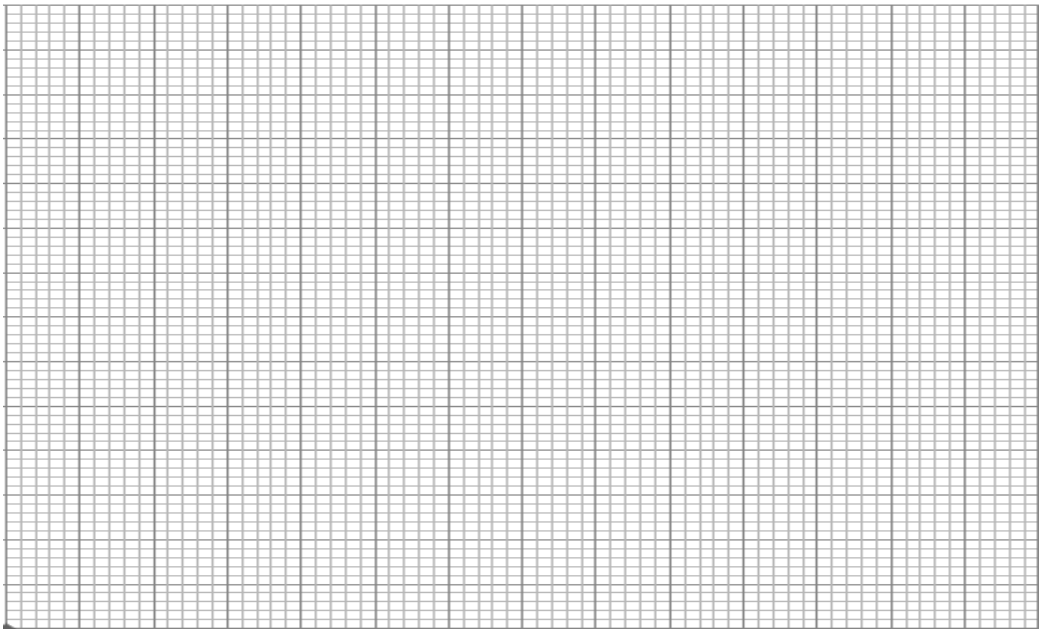
Data:

Part I. changing m keeping force constant. ($M_H = \cdots\cdots\cdots\cdots M_G = \cdots\cdots\cdots\cdots$ **)**

M (gram)	t_1 sec	t_2 sec	t_3 sec	v_1 cm/ sec	v_2 cm/sec	a cm/sec^2	1/a

(1) Plot $\frac{1}{a}$ vs. M and determine M_G from the vertical intercept. $b = \frac{M_H + M_G}{M_H g}$

Determine g by finding the slope $S = \frac{1}{M_H g} \quad \Rightarrow g = \frac{1}{M_H S}$



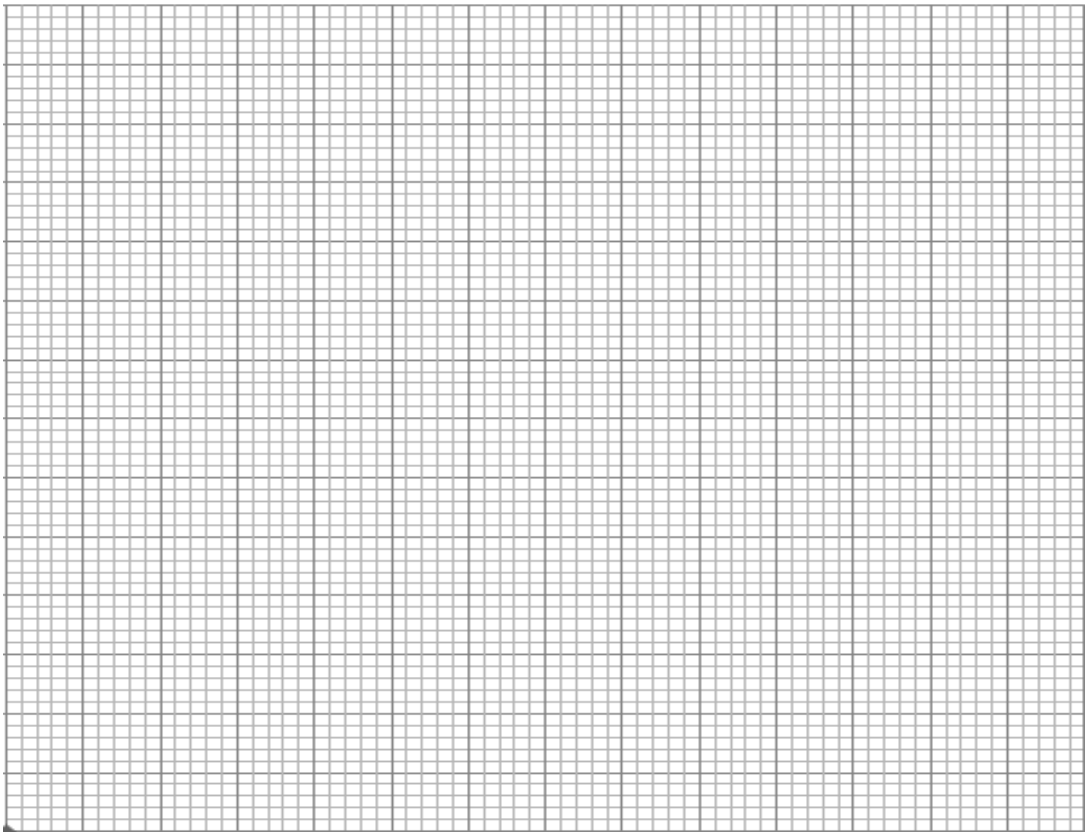
Measured M_G (gm)	**From graph M_G** (gm)	$\frac{\Delta M_G}{M_G}\%$	**Accepted g** (cm/sec^2)	**From graph g** (cm/sec^2)	$\frac{\Delta g}{g}\%$
			980		

Part II: Dependence of acceleration on force at constant mass

M (g)	$F_{net} = M_H g$ (dyne)	t_1 sec	t_2 sec	t_3 sec	v_1 cm/	v_2 cm/sec	a cm/sec^2

Plot $F_{net} = M_H g$ **versus a, and determine the slope = total mass**

$S = (M_H + M_G + M) = M_G + 50$ Find M_G From S.



Slope = total mass (gm)	(M_G from slope) (gm)	$\frac{\Delta M_G}{M_G}\%$