Exp. No. 7

Atwood's Machine

Name: …………………………....……………….…….……… Grade: …………………………….…

Student's No.: ……………………………………........Day and Date: …………………………….…

Partner's Names: ……………………………………………………Sec: …….………………….…..

(1) Fill the table below

	M_1 (g)	M_2 (g)	$t_1(s)$	$t_2(s)$	$t_3(s)$	$\bar{t}$ (s)	$\bar{t}^2$	Y(m)	a_{th}	F_{net}	a_{exp}	$\dfrac{M_2 - M_1}{M_2 + M_1}$
Run₁												
Run₂												
Run₃												
Run₄												
Run₅												
Run₆												

(2) Plot a_{exp} versus $\dfrac{M_2 - M_1}{M_2 + M_1}$ find the slope.

Slope =S= …………………………...

g = …………..………………………

Δg = …………………………………
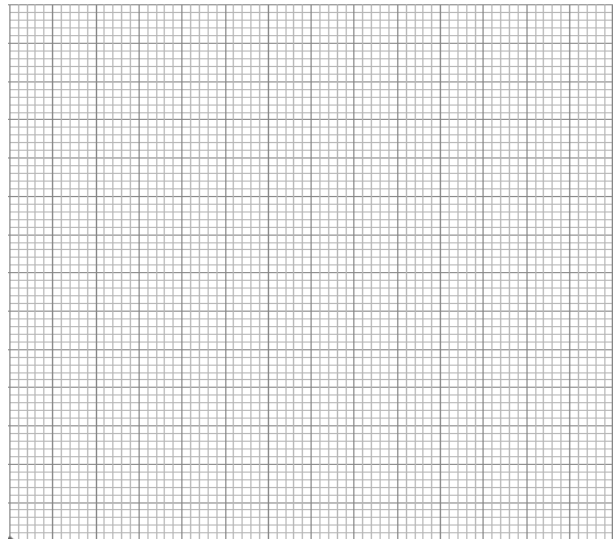
Questions:

(1) Suppose there is an Atwood machine with M_1=0.5 kg and M_2=1 kg.
What is the acceleration of such a system if the friction is negligible (g = 10 m/s²)?

(2) What is the net force in an Atwood machine if M_1=1 kg and M_2=2 kg?