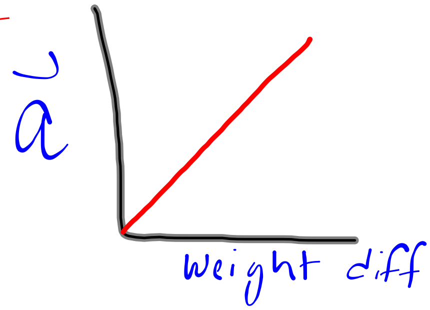
$g = 9.8\,m/s^2$

Use mass in Kg!

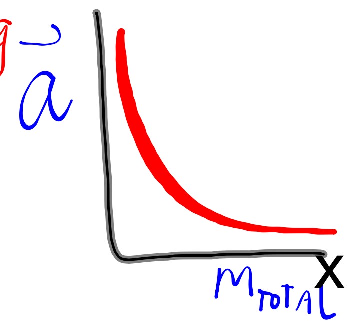
$a = \frac{(m_1 - m_2)g}{m_T}$

slope $= \frac{1}{m_T}$?



const. $= (m_1 - m_2)g$

$a = \frac{(m_1 - m_2)g}{m_1 + m_2}$



1. Based on your 1[st] graph, re-write the relationship you found in the form of a=… What does the slope of the line represent? *Hint: in this case,* $\Delta W = \Sigma F$. Does it agree with your recorded value?

$a = (m_1 - m_2) g / m_{Total}$

slope should $= 1/m_{TOTAL}$

From graph: 1/slope ~ .21kg ✓

From data table: m_T ~ .22kg

2. a) Based on your 2[nd] graph, re-write the relationship you found in the form of a=… What does the constant of proportionality in the line equation represent? Does it agree with your recorded value?

$a = (m_1 - m_2) g / m_{Total}$

const. should $= (m_1 - m_2)g$ — This is ΣF

From graph: const. = .19 ✓

From data table: $(m_1 - m_2)g$ ~ (0.20 N)

3. How does the tension in the string change as the masses start to move? Or does it?

Tension = constant.

4. What if friction were not negligible? Develop an expression, showing your work, for acceleration in terms of the masses, the frictional force, and *g*.

$$a = \frac{\Sigma F}{m_T} = \frac{(m_1 - m_2)g - F_f}{m_T}$$