

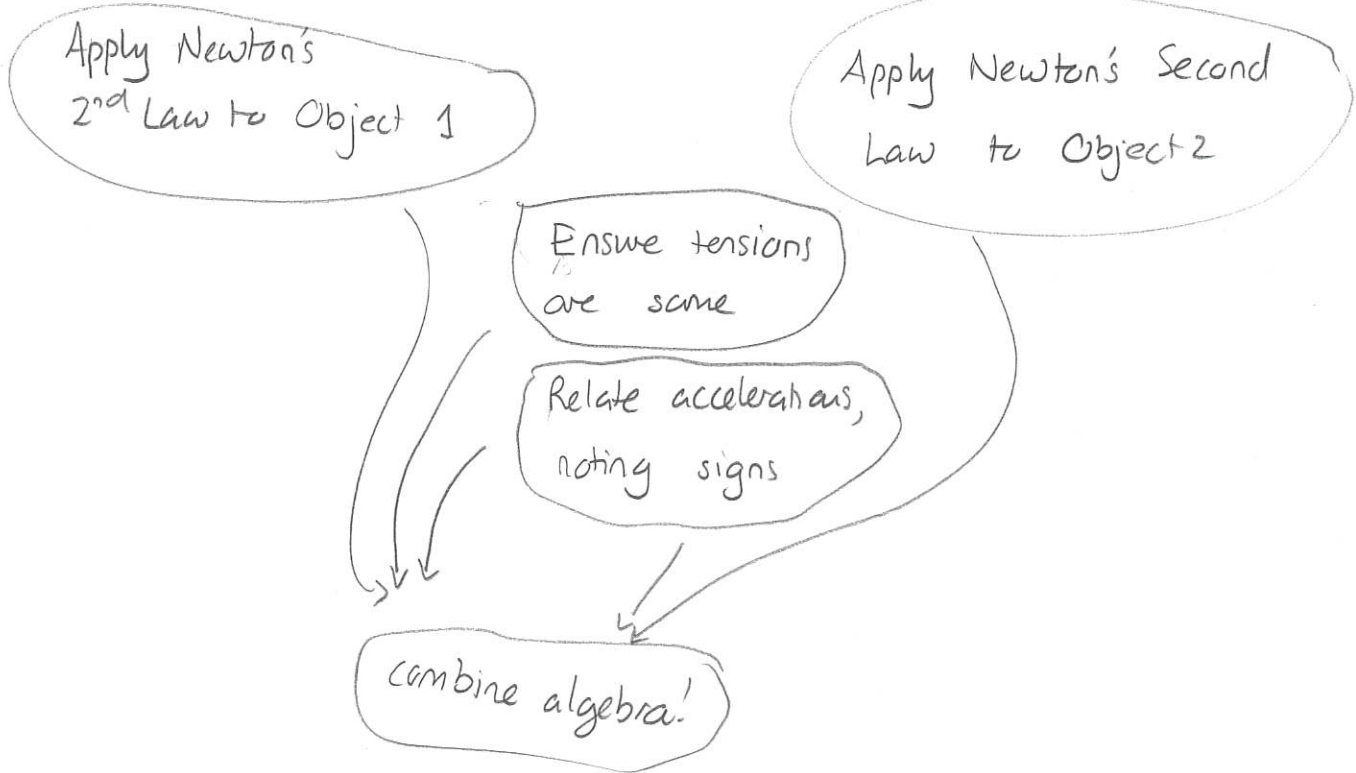
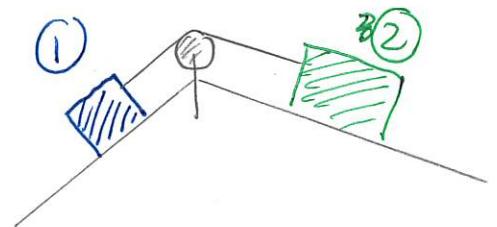
Fri: HW by 5pm

206, 207, 211, 213, 221, 224, 226, 230

Mon: Warm Up 8

Connected objects

We will consider various arrangements of connected objects. When objects are connected by a massless rope running over massless pulleys then the following strategy works.

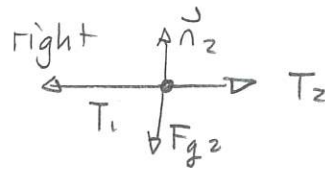
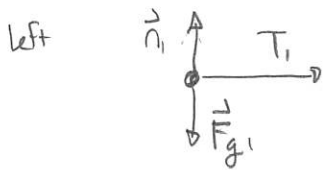


Quiz 1 30% → 30% } 10% - 50%

Quiz 2 86% - 90% } 80%

### Quiz 3 850% - 0

How to assess this



Both have same  
x component  
of acceleration,  $a_x$

$$\sum F_{ix} = M_A a_x$$

$$\sum F_{ix} = M_B a_x$$

$$\Rightarrow T_1 = M_A a_x$$

$$\Rightarrow T_2 - T_1 = M_B a_x$$



$$T_2 - M_A a_x = M_B a_x$$

$$T_1 = M_A a_x$$

$$\Rightarrow T_2 = (M_A + M_B) a_x$$

Thus  $T_1 < T_2$  regardless.

Note 
$$a_x = \frac{T_2}{M_A + M_B}$$

$$T_1 = \frac{M_A}{M_A + M_B} T_2$$

### Quiz 4

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