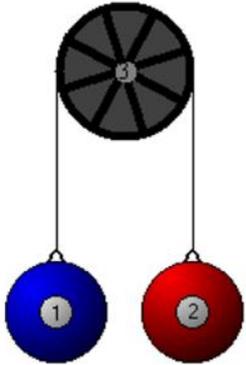


Physics 112 Assignment: Attwood Machines

Total: /20

Answer the questions below. Make sure that you show **all of your work** and include a **diagram** depicting the Attwood machine, for all questions.

1. If $m_1 = 8.3\text{kg}$ and $m_2 = 12.4\text{kg}$
 - a. Find the magnitude of the acceleration of both masses. (4)
 - b. Find the tension in the rope. (2)
2. What is the mass of 1, if the rope connecting the two boxes is measured to have a force of tension of 172.8N and the mass of 2 is 14.8kg . (7)



3. A counterweight of 54kg is used to help a person of mass 90kg do chin ups.
 - a. Calculate the force applied by the person if he accelerates at 2.0m/s^2 (5)
 - b. Calculate the magnitude of tension in the wire. (2)