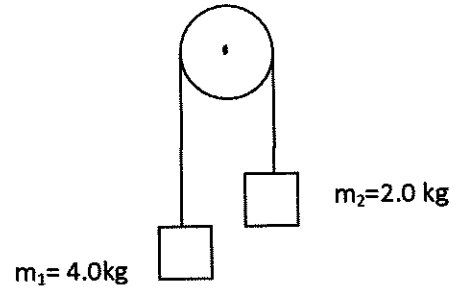


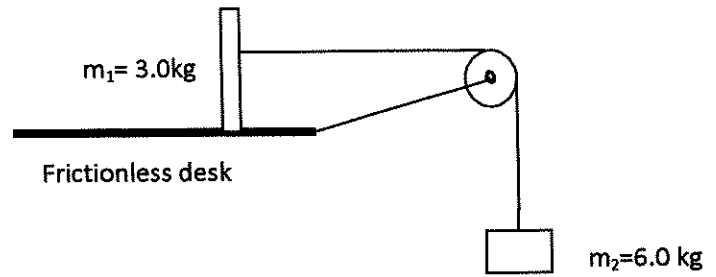
Homework:

1. Consider the following scenario:



- State your assumptions.
- Draw FBDs for each block.
- Find the tension in the rope. **(26 N)**
- Find the magnitude and direction of the acceleration of each block. **(3.3 m/s^2 [up for m_2 and down for m_1])**

2. Consider the following scenario:



- State your assumptions.
- Draw FBDs for each block.
- Find the tension in the rope. **(20 N)**
- Find the magnitude and direction of the acceleration of each block. **(6.5 m/s^2 [right for m_1 and down for m_2])**

3. Consider a 10.0-kg object on a 25°-inclined plane. What is the minimal coefficient of friction required to keep the object at rest? ($\mu_s \geq 0.47$)

4. What is the force parallel with the inclined plane required to accelerate an object by 10 m/s^2 ?
The coefficient of static friction between the surfaces is 0.2 and the object is at rest and its weight is 49N.
 $\theta = 10^\circ$. ($F_{\text{pull or push}} = 51 \text{ N}$)
