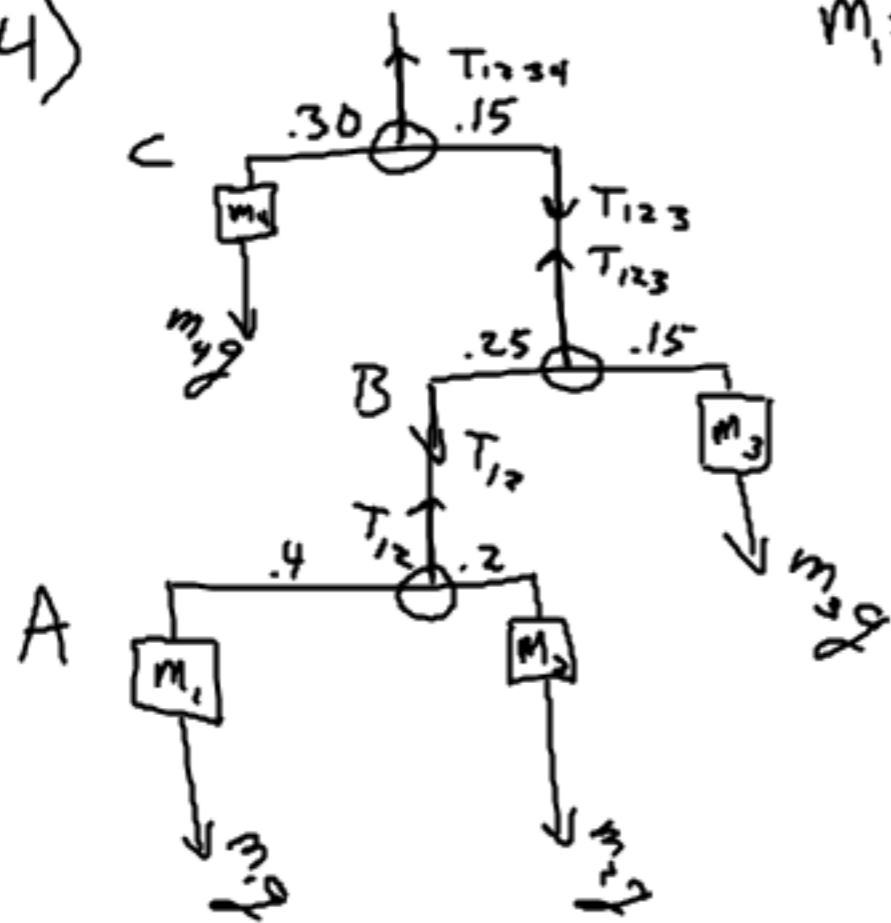


4)



$$m_1 = .17 \text{ kg}$$

A

$$\sum F = 0$$

$$m_1 g + m_2 g = T_{12}$$

$$(.17)g + (.34)g = T_{12}$$

$$T_{12} = (.17 + .34)g$$

B

$$T_{12} + m_3 g = T_{123}$$

$$T_{123} = (m_1 + m_2 + m_3)g$$

C

$$m_4 g + T_{123} = T_{1234}$$

$$\sum \tau = 0$$

$$m_1 g (.4) = m_2 g (.2)$$

$$2m_1 = m_2$$

$$m_2 = .34 \text{ kg}$$

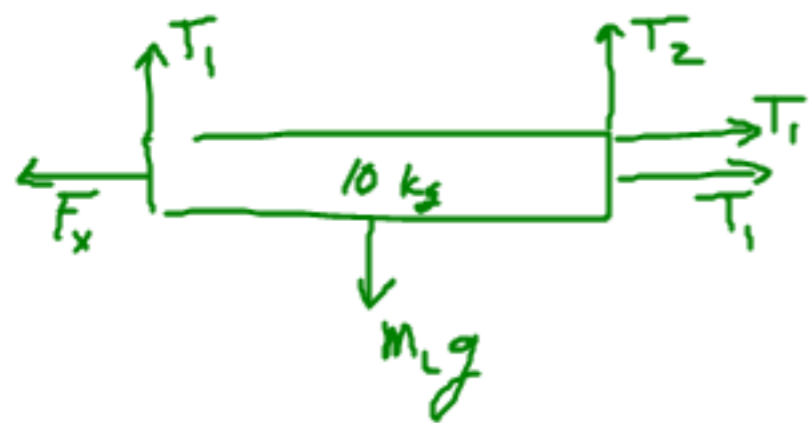
$$T_{12} (.25) = m_3 g (.15)$$

$$m_3 = \underline{\hspace{2cm}}$$

$$m_4 g (.3) = T_{123} (.15)$$

$$m_4 = \underline{\hspace{2cm}}$$

3)



$$m_1 = 5.1 \text{ kg}$$

$$T_1 = m_1 g$$

$$\sum \vec{F}_x = 0$$

$$F_x = 2T_1$$

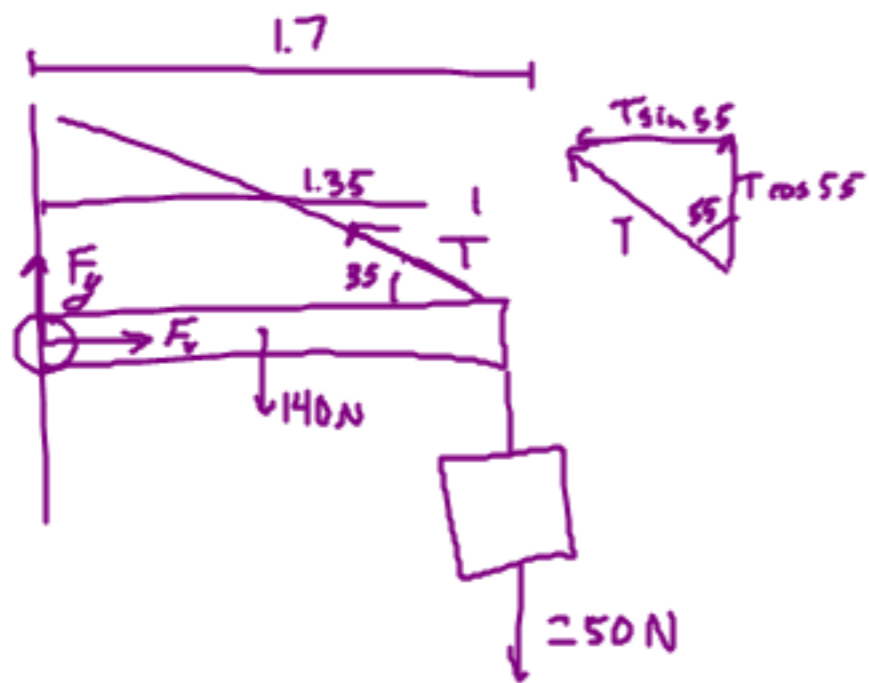
$$\sum F = 0$$

$$\sum \vec{F}_y = 0$$

$$T_1 + T_2 = m_1 g$$

$$m_1 g + m_2 g = m_1 g$$

10)



$$\sum F = 0$$

$$\sum \tau = 0$$

$$x) -T \sin 55 + F_y = 0$$

$$y) F_y + T \cos 55 - 140 - 250 = 0$$

$$140 \left(\frac{1.7}{2} \right) + 250(1.7) - T \cos 55(1.7)$$