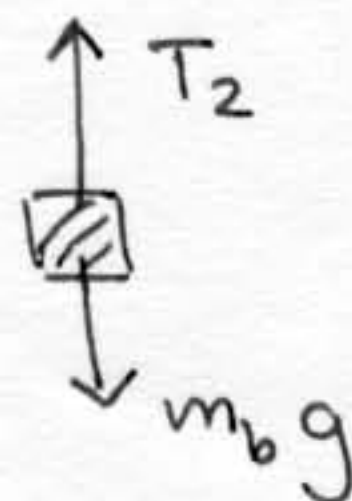
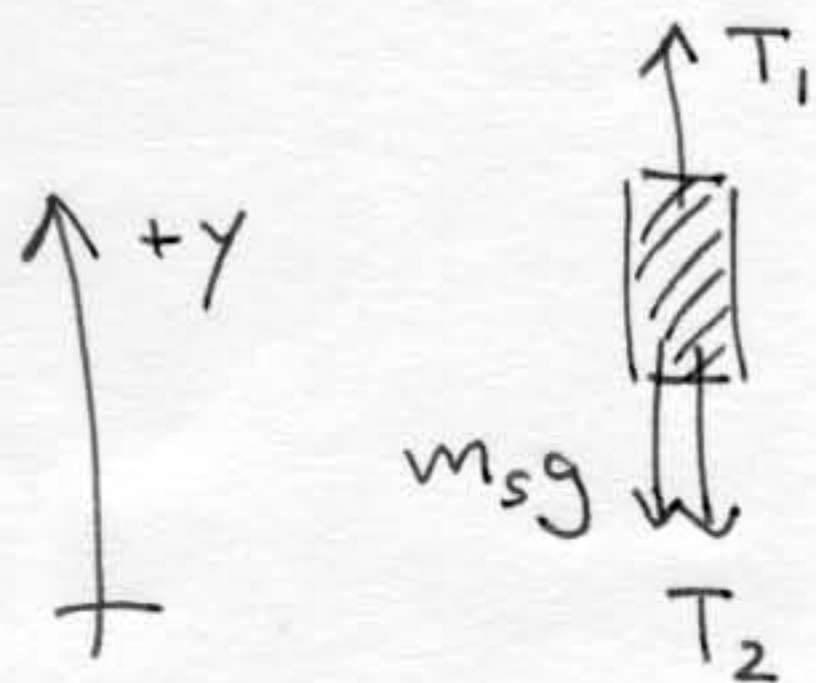


HW3 Soln

1 (a) sys = scale

sys = block



$$a_s = 0 \Rightarrow T_1 = m_s g + T_2$$

$$a_b = 0 \Rightarrow \boxed{T_2 = m_b g} = 0.49 \text{ N}$$

Combine: $T_1 = m_s g + m_b g$

$$\boxed{T_1 = (m_s + m_b) g} = 0.59 \text{ N}$$

(b) sys = block: $a_b = +0.23 \text{ m/s}^2$

$$T_2 - m_b g = m_b a_b$$

$$\boxed{T_2 = m_b (g + a_b)} = 0.502 \text{ N}$$

Scale reading is tension in lower string / g

2 (a) sys = m_1

sys = m_2

