

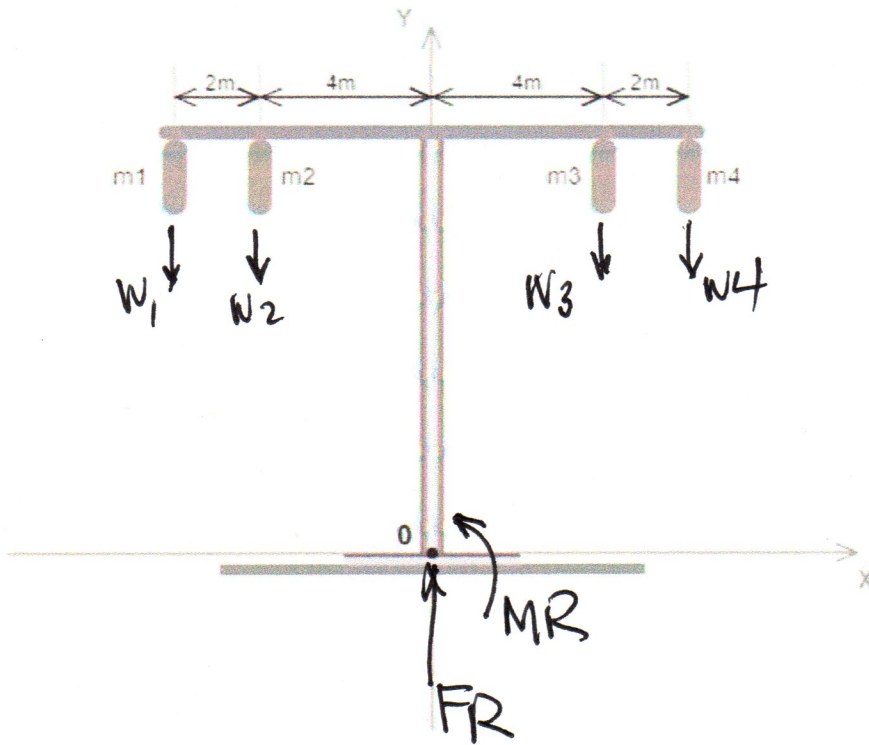
SOLUTION**ip4STATICS Worksheet for U04_P01**

A traffic pole supports four lights, as shown below.

Instance variables: masses m_1 , m_2 , m_3 and m_4 , in kg.

Setup

$$\begin{aligned} W_1 &= m_1 \cdot g \\ W_2 &= m_2 \cdot g \\ W_3 &= m_3 \cdot g \\ W_4 &= m_4 \cdot g \end{aligned}$$



- (1) What is the reaction force FR at O that keeps the pole in equilibrium? (Enter 'lb,deg')
- (2) What is the reaction moment MR about O that keeps the pole in equilibrium? (Use +:ccw / -:cw)

$$(1) \sum F_y = 0: |FR| = W_1 + W_2 + W_3 + W_4$$

$$\angle FR = 90^\circ$$

$$(2) \sum M_O = 0: MR = 6 \cdot W_1 + 4 \cdot W_2 - 4 \cdot W_3 - 6 \cdot W_4$$

Note. MR is signed, Pos. dir. ccw.