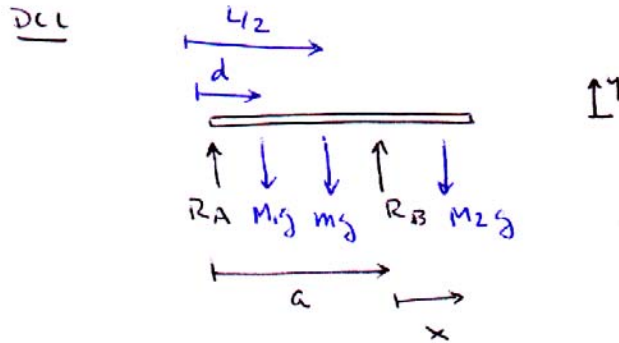


SOLUCIÓN EJERCICIO 13



$$\sum \vec{F} = 0 \Rightarrow \uparrow y) \quad R_A + R_B - M_1 g - m g - M_2 g = 0 \quad (1)$$

$$\sum \vec{\tau} = 0 \text{ wrt A} \Rightarrow -M_1 g d - m g \frac{L}{2} + R_B a - M_2 g (a+x) = 0$$

$$\therefore R_B = \frac{1}{a} \left[M_1 g d + m g \frac{L}{2} + M_2 g (a+x) \right]$$

De (1) se tiene

$$R_A = (M_1 + m + M_2) g - R_B$$

$$R_A = (M_1 + m + M_2) g - \frac{1}{a} \left[M_1 g d + m g \frac{L}{2} + M_2 g (a+x) \right]$$

$$R_A = 0 \Rightarrow (M_1 + m + \cancel{M_2}) g a = M_1 g d + m g \frac{L}{2} + M_2 g (\cancel{a} + x)$$

$$(M_1 + m) a = M_1 d + m \frac{L}{2} + M_2 x$$

$$x = \frac{1}{M_2} \left[(a-d) M_1 + m \left(a - \frac{L}{2} \right) \right]$$