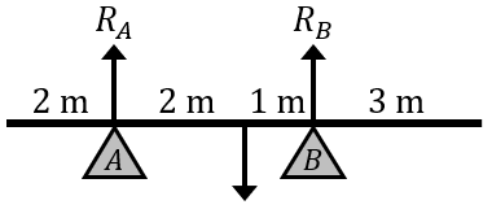
Moments and Equilibrium

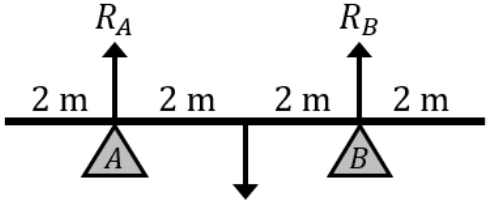
Each of these beams is in equilibrium. Find any missing forces, masses or lengths.

(a)



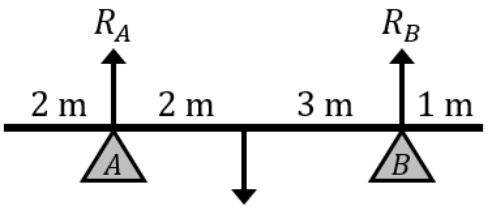
$R_A = 2g$ N $R_B = 4g$ N

(b)



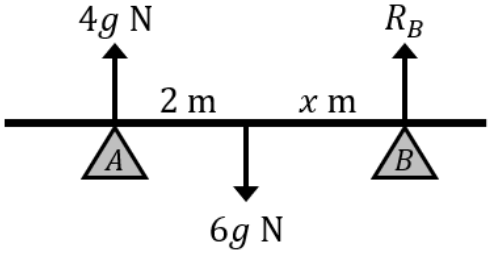
$R_A = 3g$ N $R_B = 3g$ N

(c)



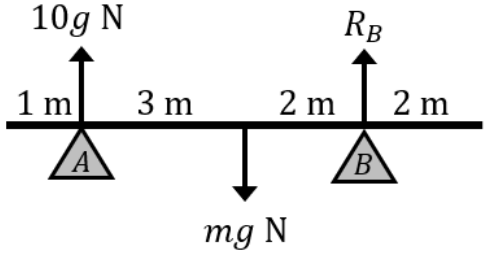
$R_A = 3.6g$ N $R_B = 2.4g$ N

(d)



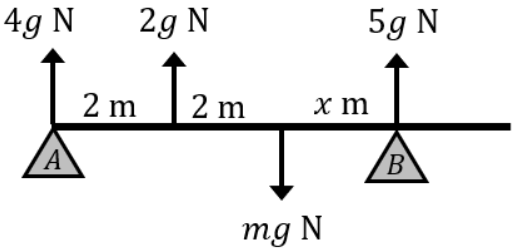
$x = 4$ m $R_B = 2g$ N

(e)



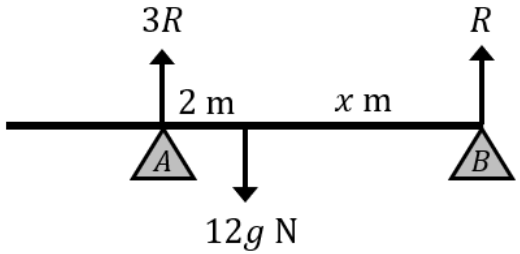
$R_B = 15g$ N $m = 25$ kg

(f)



$m = 11$ kg $x = 4$ m

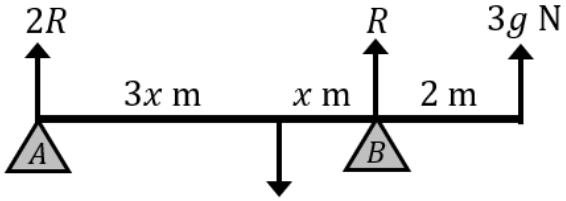
(g)



$R = 3g$ N x = 6 m

(h)

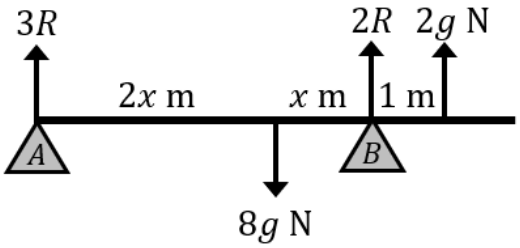
The beam is non-uniform.



$R = 3g$ N x = 0.5 m

(i)

The beam is non-uniform.



$R = 1.2g$ N $x = \frac{5}{7}$ m