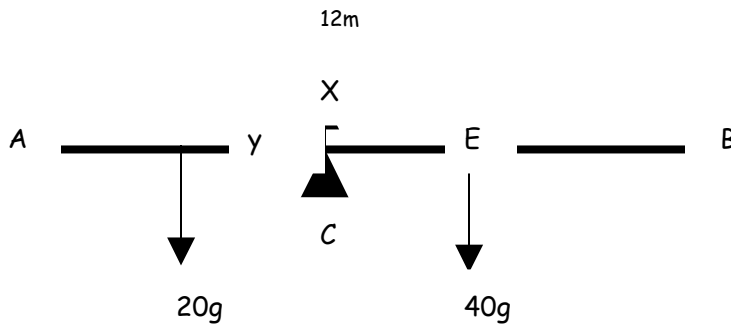


Moments

Non uniform beams

Example 7

A non uniform beam AB of mass 20kg and length 12m has an object of mass 40kg placed at a point 8m from A. The beam is in equilibrium in a horizontal position resting on a support C at the midpoint of AB. Find the position of the centre of mass.



Taking moments about C gives:

$$40g \times 2 = 20g \times y$$

$$y = 4m$$