1. **Tilting**

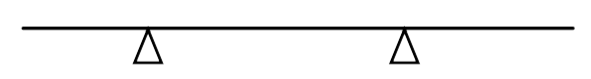
When a rigid body is on the point of tilting about a pivot, the reaction

at any other support (or tension in any other wire/string) is zero.

**Example**

A uniform beam AB, of mass 12kg and length 6m rests on two pivots at P and Q, where AP = 1m and QB = 1.5m.

A particle of *M* kg is placed at A and the beam is about to tilt about the pivot at P. Find the mass of the particle and the reaction force at P.



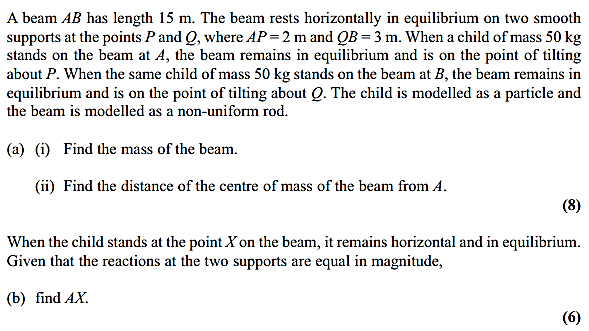
**Test Your Understanding – Suspended System** *(Textbook)*

A non-uniform rod , of length 10 m and weight 40 N, is suspended from a pair of light cables attached to and where m and m.

When a weight of 25 N is hung from the rod is on the point of rotating.

Find the distance of the centre of mass of the rod from .

**Test Your Understanding** *(EdExcel M1 May 2013 Q6)*



Exercise 4E Page 84

Mixed Exercise 4 Page 85