**3** **(a)** Explain what is meant by the *centre of gravity* of an object.

.....

.....

.....[2]

**(b)** A non-uniform plank of wood XY is 2.50 m long and weighs 950 N. Force-meters (spring balances) A and B are attached to the plank at a distance of 0.40 m from each end, as illustrated in Fig. 3.1.

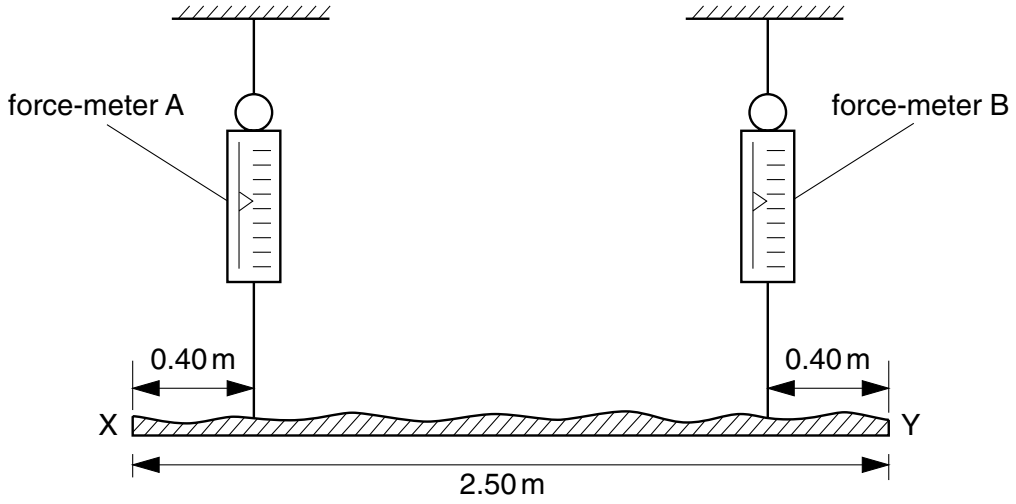


**Fig. 3.1**

When the plank is horizontal, force-meter A records 570 N.

**(i)** Calculate the reading on force-meter B.

reading = ..... N

**(ii)** On Fig. 3.1, mark a likely position for the centre of gravity of the plank.

**(iii)** Determine the distance of the centre of gravity from the end X of the plank.

distance = ..... m

[6]



**[Turn over**