

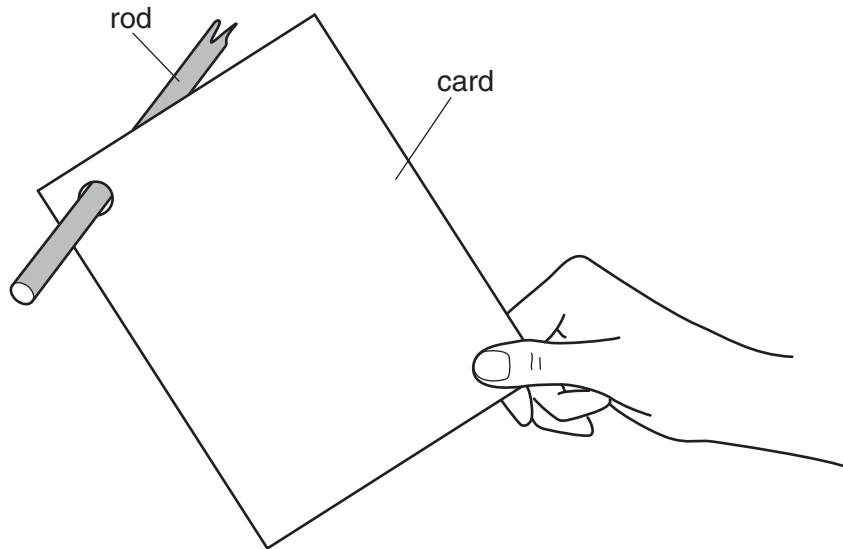
- 3 (a) State what is meant by the *centre of gravity* of a body.

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.....[2]

- (b) A uniform rectangular sheet of card of weight  $W$  is suspended from a wooden rod. The card is held to one side, as shown in Fig. 3.1.



**Fig. 3.1**

On Fig. 3.1,

- (i) mark, and label with the letter  $C$ , the position of the centre of gravity of the card, [1]
- (ii) mark with an arrow labelled  $W$  the weight of the card. [1]

(c) The card in (b) is released. The card swings on the rod and eventually comes to rest.

- (i) List the two forces, other than its weight and air resistance, that act on the card during the time that it is swinging. State where the forces act.

1. ....

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2. ....

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[3]

- (ii) By reference to the completed diagram of Fig. 3.1, state the position in which the card comes to rest.

Explain why the card comes to rest in this position.

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..... [2]