

- 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.

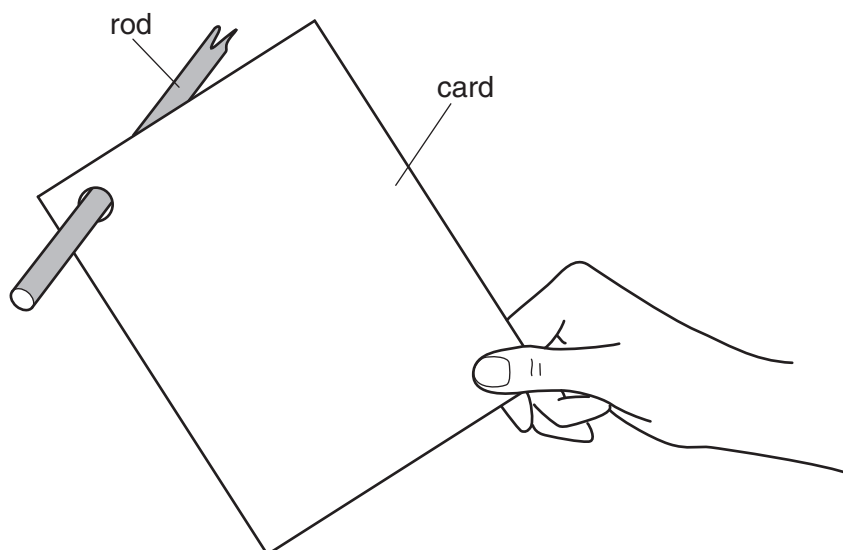


Fig. 3.1

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]