

**Answer ALL questions.**

**Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.**

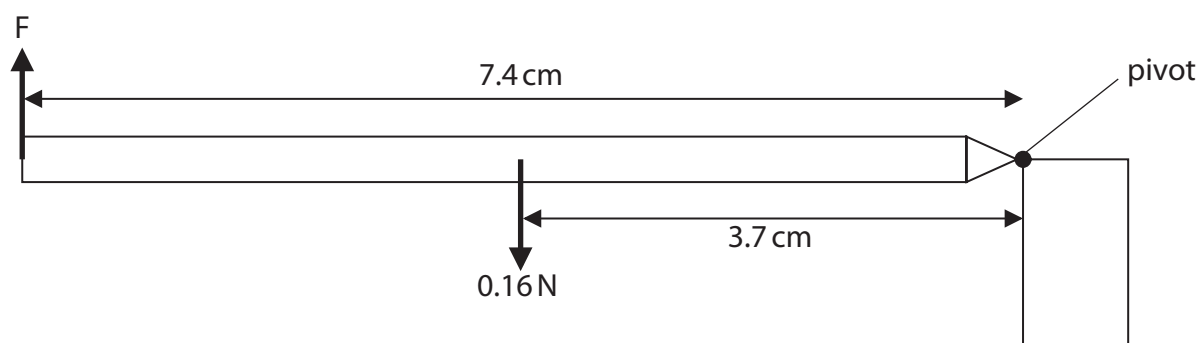
**1** A pencil has a weight of 0.16 N.

(a) What is the mass of the pencil?

(1)

- ☐ **A** 1.6 g
- ☐ **B** 16 g
- ☐ **C** 160 g
- ☐ **D** 1600 g

(b) The diagram shows the pencil with one end resting on a small block.



A finger provides an upwards force,  $F$ , to keep the pencil horizontal.

(i) The weight of the pencil is 0.16 N.

Calculate the moment of the weight of the pencil about the pivot.

Use the formula

$$\text{moment} = \text{force} \times \text{perpendicular distance from the pivot}$$

(2)

moment = ..... N cm



(ii) State the moment of the force F.

(1)

moment = ..... N cm

(iii) Show that force F is 0.080 N.

(2)

**(Total for Question 1 = 6 marks)**

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