

**Experiment 1**

You are going to determine the weight of a uniform metre ruler, and then use this result to find the weight of a reel of wire.

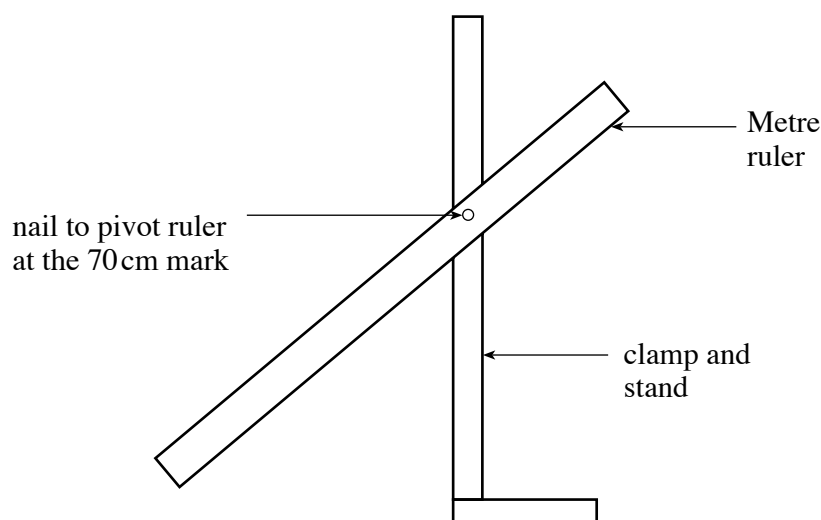


- (a) (i) Carefully, draw on the diagram the point through which all of the weight of the ruler can be considered to act. [2]

- (ii) What is the name given to this point? [1]

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- (b) Set up the apparatus as shown, with the ruler pivoted at the 70 cm mark.



- (i) Loop the 200 g mass over the metre ruler and adjust it until the ruler is horizontal. Note down the distance of the mass from the pivot. [1]

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- (ii) Calculate the weight (in newtons) of 200 g.  
(for the purpose of this question take the acceleration due to gravity as  $10 \text{ ms}^{-2}$ ) [1]

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