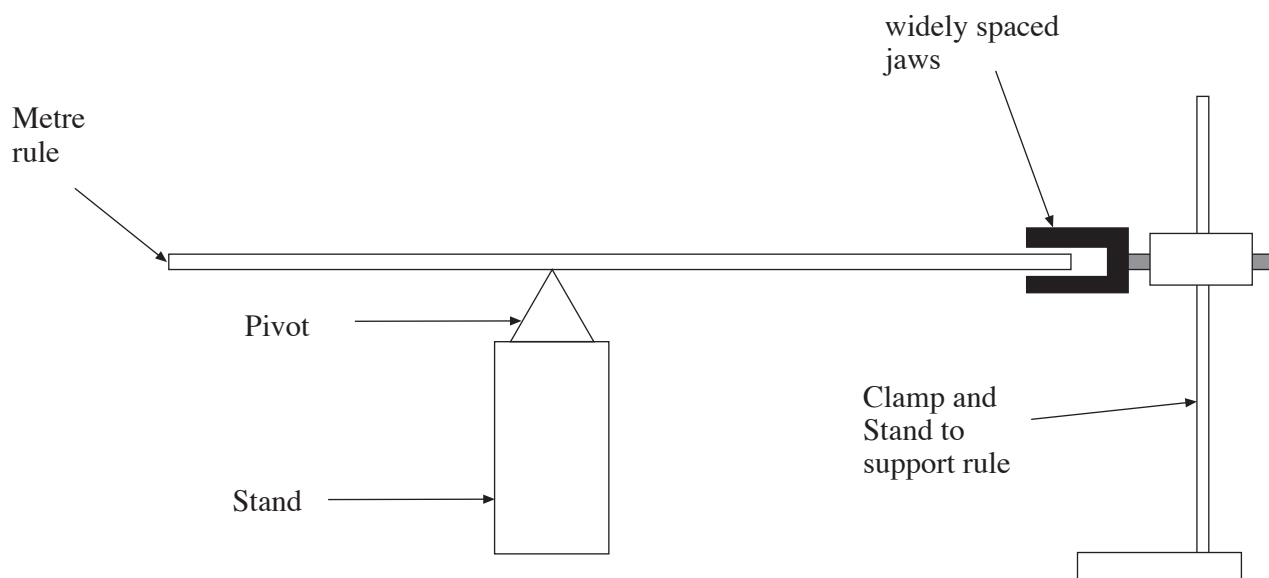


TASK A2

The candidates will be expected to investigate the balance of a metre rule, both loaded and unloaded.

Test 1



The above apparatus should be set up for the candidates at the start of the task. The clamp should support the metre rule only loosely.

Apparatus required:

1 × metre rule with a resolution of 1mm

1 × 2.0 N weight (200g including hanger) - the candidates should easily be able to hang it from the rule at any position

1 × clamp and stand

1 × stand and pivot, e.g. wooden block and prism (which need not have a sharp edge)

1 × unknown weight, labelled **S**. This should have a mass of approximately 60 grams, and could consist of a glass stopper or a small coil of wire. Other objects of approx. this mass could also be used. Please check before the experiment that the unknown mass is suitable to balance the 2.0 N weight. This object should be attached to a thread loop to allow it to be hung from the ruler without the candidates' having to tie any knots.

N.B. For ease of marking, centres should, where possible, select ruler with similar mass and which balance near the 50cm mark.

ADDITIONAL INFORMATION FOR SUPERVISORS

It is not anticipated that candidates should spend a long time to balance the rule exactly; answers within a couple of mm will be good enough. If you feel a candidate is taking too long then please encourage them to move on to complete the rest of the question.

Test 2:

The apparatus is as for **Test 1** except that a different unknown mass (e.g. 70-80 g) should be used.