

Moments – A2 Mathematics P2**1. June/2022/Paper_7357/02/No.14**

A £2 coin has a diameter of 28 mm and a mass of 12 grams.

A uniform rod AB of length 160 mm and a fixed load of mass m grams are used to check that a £2 coin has the correct mass.

The rod rests with its midpoint on a support.

A £2 coin is placed face down on the rod with part of its curved edge directly above A .

The fixed load is hung by a light inextensible string from a point directly below the other end of the rod at B , as shown in the diagram.



- (a) Given that the rod is horizontal and rests in equilibrium, find m .

[3 marks]

- (b) State an assumption you have made about the £2 coin to answer part (a).

[1 mark]
