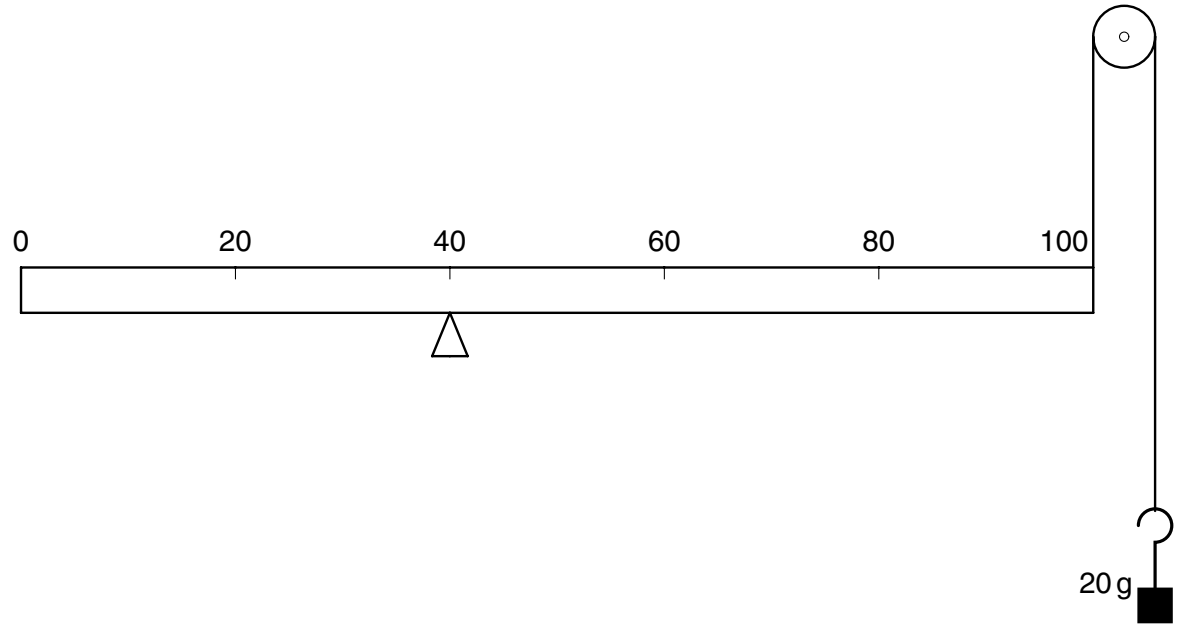
14 A uniform metre rule of mass 100 g is supported by a knife-edge at the 40 cm mark and a string at the 100 cm mark. The string passes round a frictionless pulley and carries a mass of 20 g as shown in the diagram.



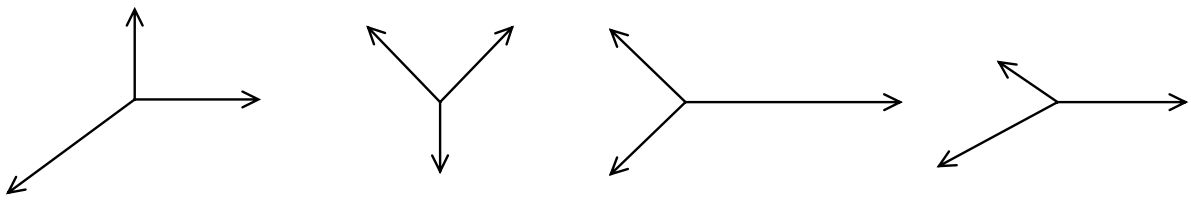
At which mark on the rule must a 50 g mass be suspended so that the rule balances?

A 4 cm **B** 36 cm **C** 44 cm **D** 96 cm

15 The diagrams represent systems of coplanar forces acting at a point. The lengths of the force vectors represent the magnitudes of the forces.

Which system of forces is in equilibrium?

A **B** **C** **D**



16 Which of the following is an expression for power?

A energy x time

B force x displacement

C force x velocity

D mass x velocity