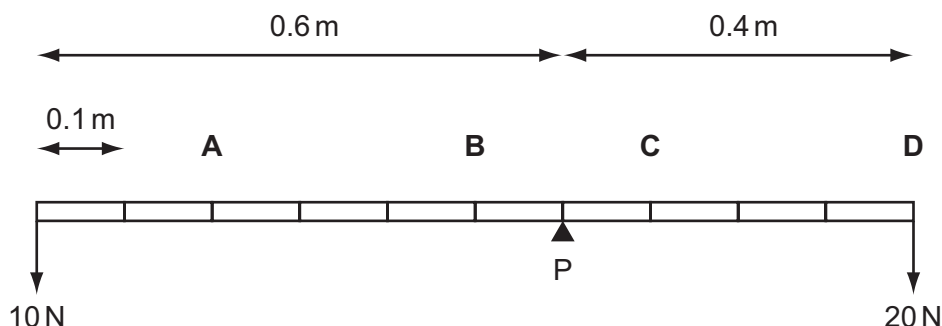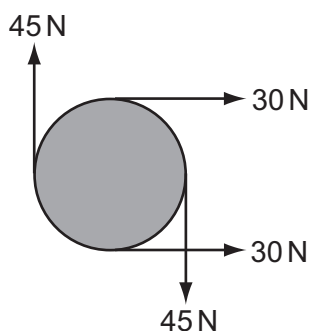**12** A uniform beam of weight 100 N is pivoted at P as shown. Weights of 10 N and 20 N are attached to its ends.

The length of the beam is marked off at 0.1 m intervals.

At which point should a further weight of 20 N be attached to achieve equilibrium?

13 The diagram shows four forces applied to a circular object.

Which of the following describes the resultant force and resultant torque on the object?

	resultant force	resultant torque
A	non-zero	non-zero
B	non-zero	zero
C	zero	non-zero
D	zero	zero

14 A car with a total mass of 1400 kg is travelling at 30 m s^{-1}.

What is the kinetic energy of the car?

A 21 kJ   **B** 42 kJ   **C** 630 kJ   **D** 1260 kJ