13 What is the condition for an object to be in equilibrium?

A The object's velocity and the resultant torque on it must both be zero.

B The object's velocity must be zero.

C The resultant force and the resultant torque on the object must both be zero.

D The resultant force on the object must be zero.

14 A uniform solid cuboid of concrete of dimensions 0.50 m × 1.20 m × 0.40 m and weight 4000 N rests on a flat surface with the 1.20 m edge vertical as shown in diagram 1.

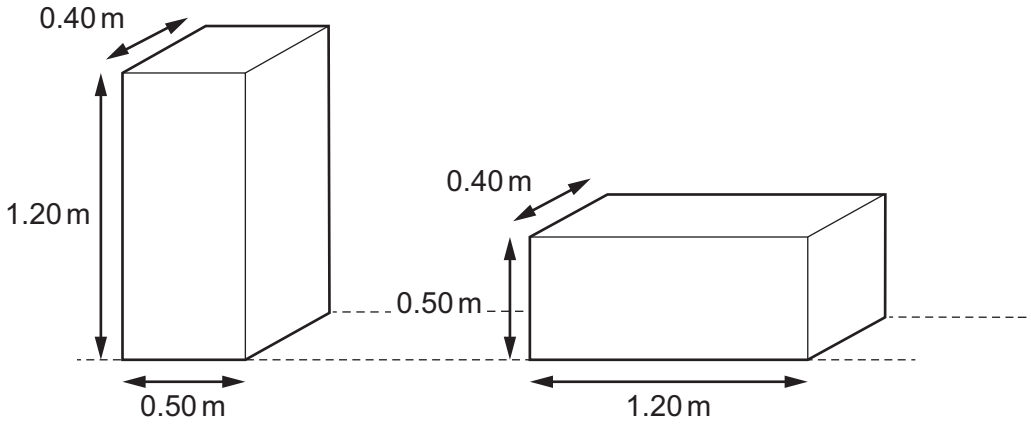

diagram 1 diagram 2

What is the minimum energy required to roll the cuboid through 90° to the position shown in diagram 2 with the 0.50 m edge vertical?

A 200 J **B** 400 J **C** 1400 J **D** 2600 J

Space for working