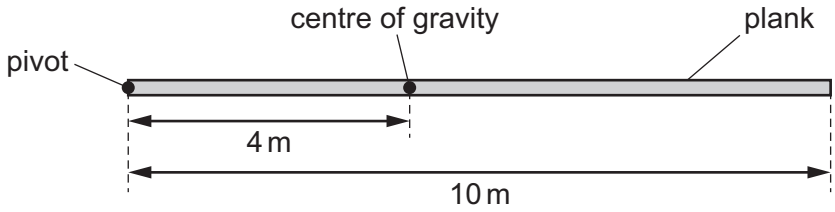
11 A horizontal wooden plank is pivoted at one end, as shown.



The plank has a mass of 100 kg and a length of 10 m. The centre of gravity of the plank is a distance of 4 m from the pivot.

What is the moment of the weight of the plank about the pivot?

A 4×10^2 N m **B** 5×10^2 N m **C** 4×10^3 N m **D** 5×10^3 N m

12 When **must** an object be in equilibrium?

A when no resultant force acts on the object

B when no resultant force and no resultant torque act on the object

C when no resultant torque acts on the object

D when the upward force on the object is equal and opposite to its weight