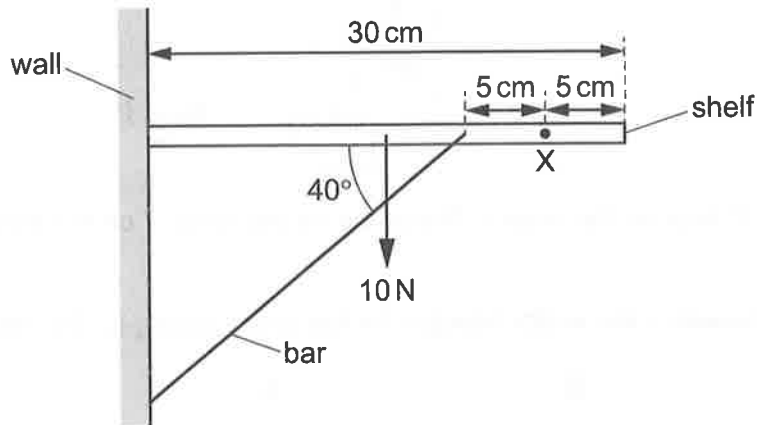


**10** A uniform shelf of width 30 cm and weight 10 N is attached to a vertical wall.

It is kept horizontally in equilibrium by a rigid bar that is attached to the shelf 10 cm from its end and inclined at  $40^\circ$ , as shown.



A load is placed at point X which is 5 cm from the end of the shelf.

The compression force in the bar is 50 N.

What is the weight of the load?

**A** 20 N

**B** 22 N

**C** 25 N

**D** 28 N

**11** An object of mass  $m$  at a height  $h$  above the ground has a total energy  $E$  equal to  $mgh$ . It falls