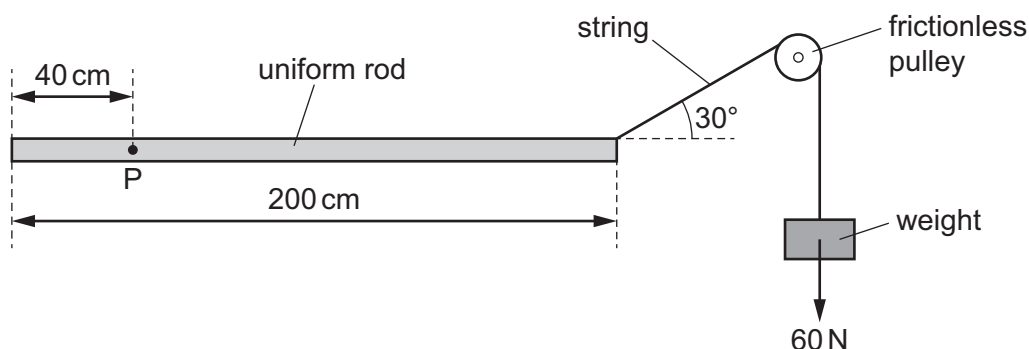
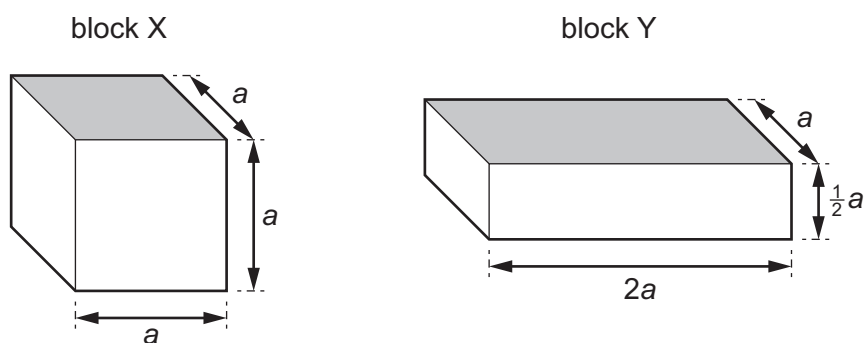


- 14 A uniform rod of length 200 cm is freely pivoted at point P. The rod is held horizontally in equilibrium by a 60 N weight that is attached to the rod by a string passing over a frictionless pulley.



What is the weight of the rod?

- A 30 N B 60 N C 80 N D 140 N
- 15 The diagram shows two blocks X and Y.



Block X has sides of length a . When block X is placed in a liquid of density ρ with the shaded face level with the liquid surface, it experiences an upthrust U .

Block Y has horizontal sides of length a and $2a$ and height $\frac{1}{2}a$. Block Y is placed in a liquid of density 2ρ , also with the shaded face level with the liquid surface.

What is the upthrust on block Y?

- A $\frac{1}{2}U$ B U C $2U$ D $4U$