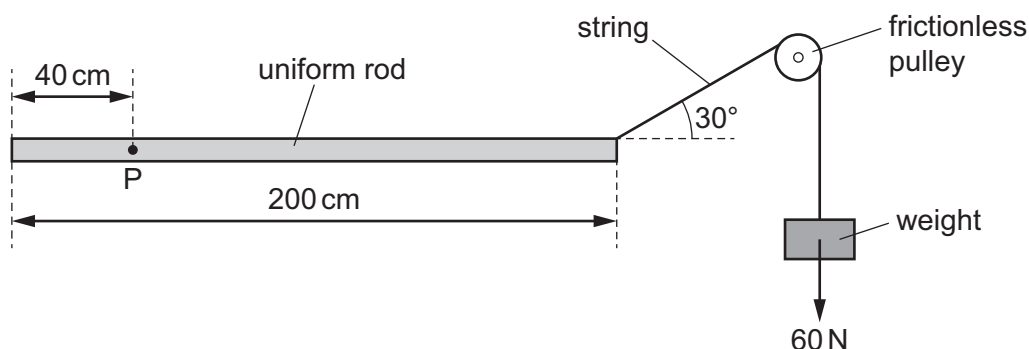
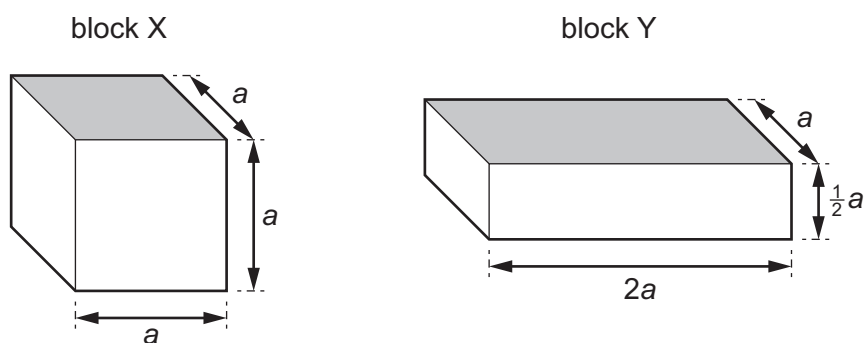


- 14 A uniform rod of length 200 cm is freely pivoted at point P. The rod is held horizontally in equilibrium by a 60 N weight that is attached to the rod by a string passing over a frictionless pulley.



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  $\rho$  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  $2\rho$ , 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  $4U$