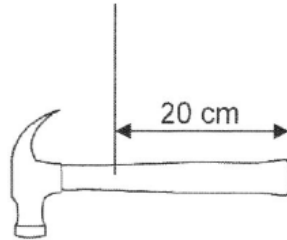


O Level Pure Physics MCQs

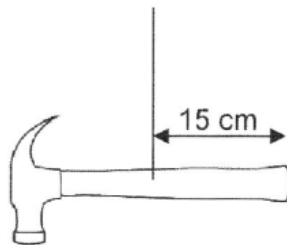
Moments Test 3.0

Q1

A hammer weighing 2 N is being balanced at the suspended position shown.



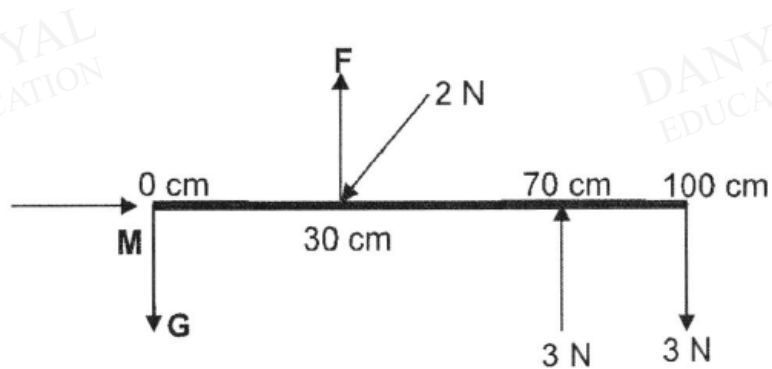
When the point of suspension is shifted to the position shown below, what is the most probable weight and position of a counterweight required to balance the hammer again?



	weight	position
A	1 N	5 cm to the left of the string
B	1 N	5 cm to the right of the string
C	2 N	5 cm to the left of the string
D	2 N	5 cm to the right of the string

Q2

A 1 m long light uniform beam is being balanced as shown below.

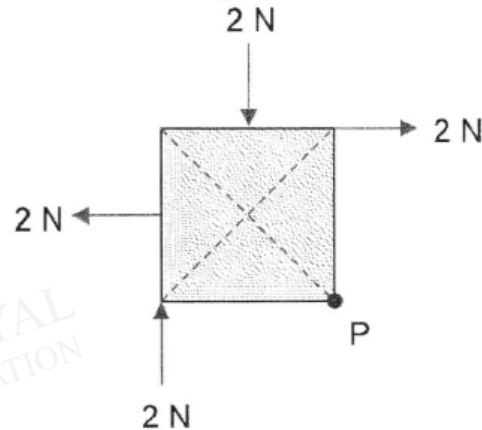


Calculate the force G .

- A** 3 N **B** 4 N **C** 5 N **D** 6 N

Q3

A cube of sides S m is subjected to four forces as shown below. All four forces have a magnitude of 2 N and the cube is hinged at P.

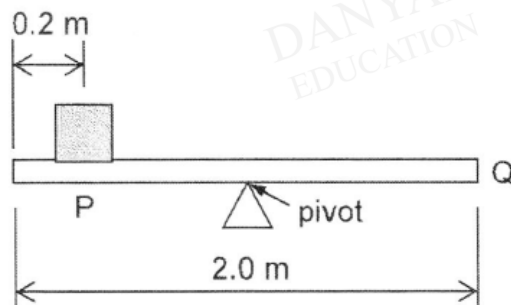


How many pairs of the forces above will give a net moment with a magnitude of S Nm?

- A 2 B 3 C 4 D 5

Q4

The diagram below shows a uniform plank supported at the centre by a pivot. The plank is allowed to slide on the pivot. A load of 2.0 N is attached to the plank at P.

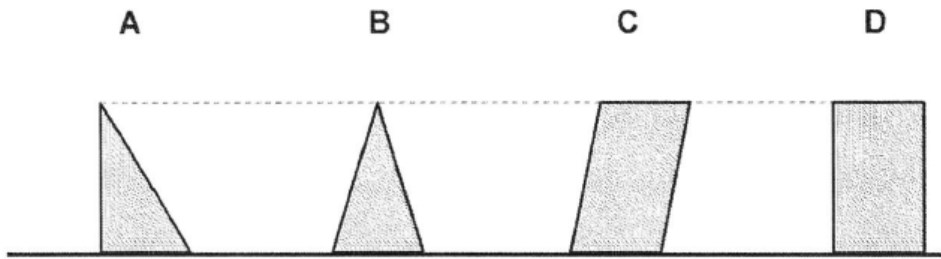


Which of the following actions can stabilise the plank horizontally?

- A Move the plank with the load slowly to the right until it stabilises.
B Move the plank with the load slowly to the left until it stabilises.
C Place a load of 4.0 N at a distance of 0.6 m to the right of the pivot.
D Suspend the plank at Q with a rope.

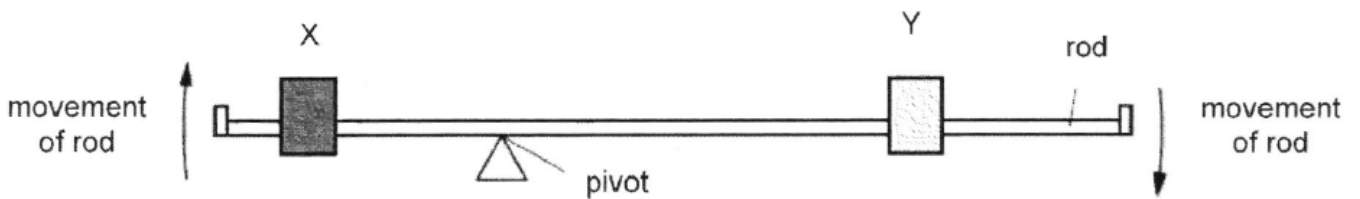
Q5

The diagrams below show cross-sections of four solid objects. Which object is the most stable?



Q6

The diagram shows an unbalanced rod. Two loads X and Y can be moved along the rod. The rod turns in a clockwise direction as shown.



Which action could make the rod balance?

- A moving X to the left
- B moving X to the right
- C moving Y to the right
- D moving the pivot to the left

Q7

What makes an object the most stable?

	position of centre of gravity	area of base
A	high	small
B	high	large
C	low	small
D	low	large

Q8

The diagram below shows a wine bottle placed in a wooden holder. The bottle and the holder are in equilibrium.



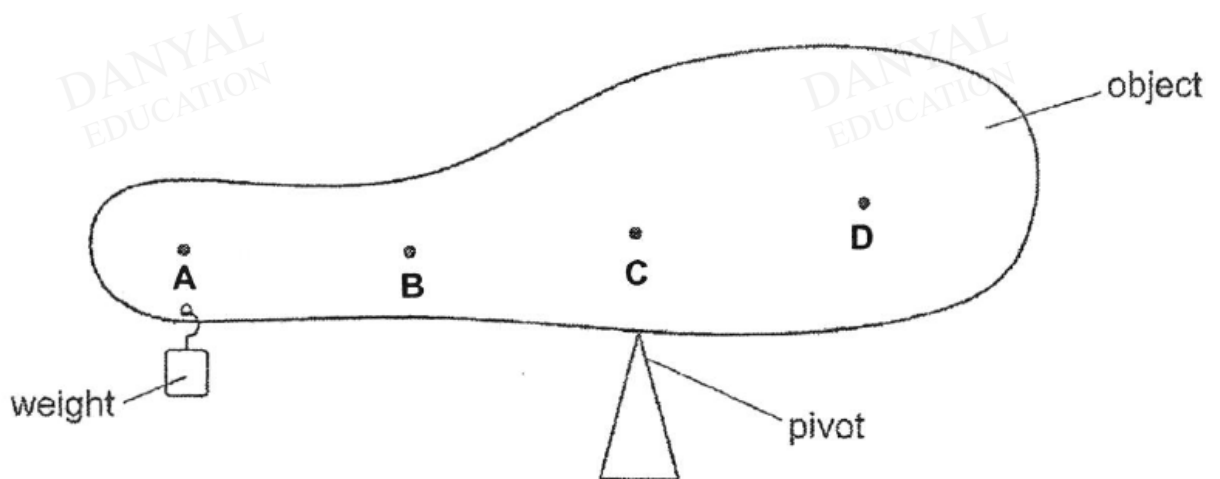
Which of the following statements is true about the set-up?

- A The centre of gravity of the bottle is directly above the base of the wooden holder.
- B The centre of gravity of the bottle and that of the wooden holder are at the same point.
- C The centre of gravity of the wooden holder is directly above the base of the wooden holder.
- D The centre of gravity of the bottle and the wooden holder is directly above the base of the wooden holder.

Q9

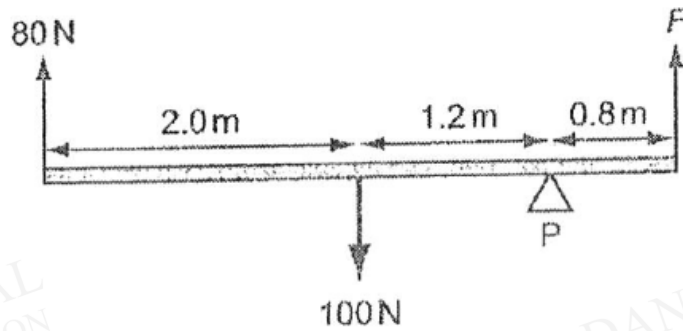
A student balances a non-uniform object on a pivot. To do this, a weight is suspended near the left-end of the object.

What is the centre of gravity of the object?



Q10

A uniform rod of weight 100 N is pivoted at a point P. An 80 N upward force acts at one end and a force F acts at the other end to keep the rod in equilibrium.



What is the value of F ?

- A 20 N B 45 N C 170 N D 470 N

Answers

Moments Test 3.0

Q1 D

Q2 A

Q3 A

Q4 A

Q5 B

Q6 A

Q7 D

Q8 D

Q9 D

Q10 C

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