

Multiple Choice Questions

1. Cantilever beam has one end _____ and other end _____.

- a. hinged, free
- b. fixed, free
- c. fixed, hinged
- d. none of the above

2. Redundant truss is a type of _____

- a. perfect truss
- b. imperfect truss
- c. stable truss
- d. none of the above

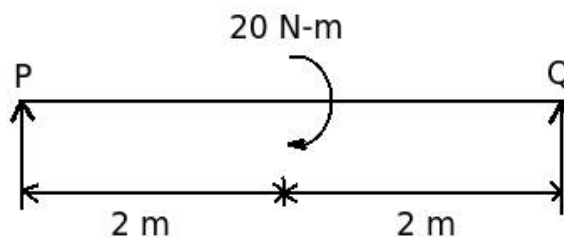
3. The maximum and minimum magnitude of resultant forces is 1000 N and 500 N at point. What are the values of two forces acting on it?

- a. 500 N, 500 N
- b. 450 N, 550 N
- c. 300 N, 700 N
- d. 250 N, 750 N

4. Which of the following statements is false about forces/couple?

- a. Moment of couple is free vector
 - b. Resultant and equilibrant are equal in magnitude and direction
 - c. Resultant of a couple is always zero
 - d. Parallelogram law is to be proved experimentally
- b.

5. What is the reaction acting on point Q, for the simply supported beam shown below?



- a. 5 N (↑)
- b. 10 N (↑)
- c. 10 N (↓)
- d. 40 N (↓)

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6. Which of the following conditions do not change the effect of couple?

- a. Shifting of couple to a new position in its plane
- b. Shifting of couple to a parallel plane
- c. Rotation of couple in its plane
- d. All of the above

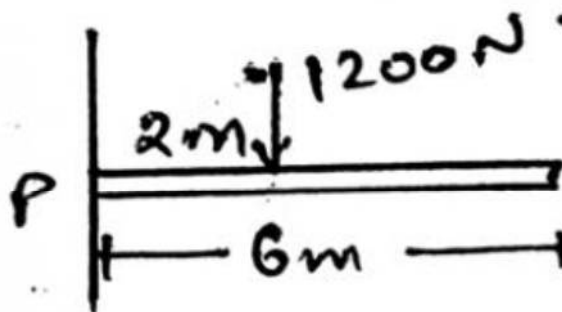
7. A single force and a couple acting in the same plane upon a rigid body

- a. balance each other
- b. cannot balance each other
- c. produce moment of a couple
- d. are equivalent

8. The main condition for the rigid body is that the distance between various particles of the body does change.

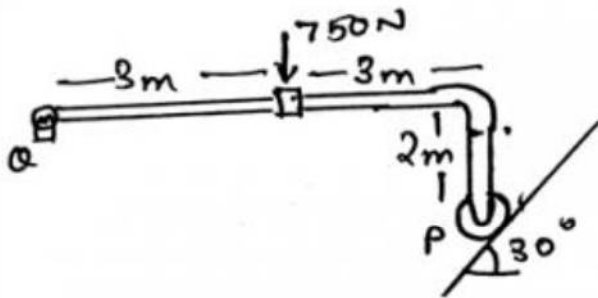
- a) True
- b) False

9. The shown here has a mass of 100kg. What is missing here in the diagram?



- a) The weight of the body is not shown
- b) The moment of the force is not shown
- c) The body cant be held like this
- d) The body diagonal is not shown

10. Determine the horizontal components of the reaction on the beam caused by the roller at P.

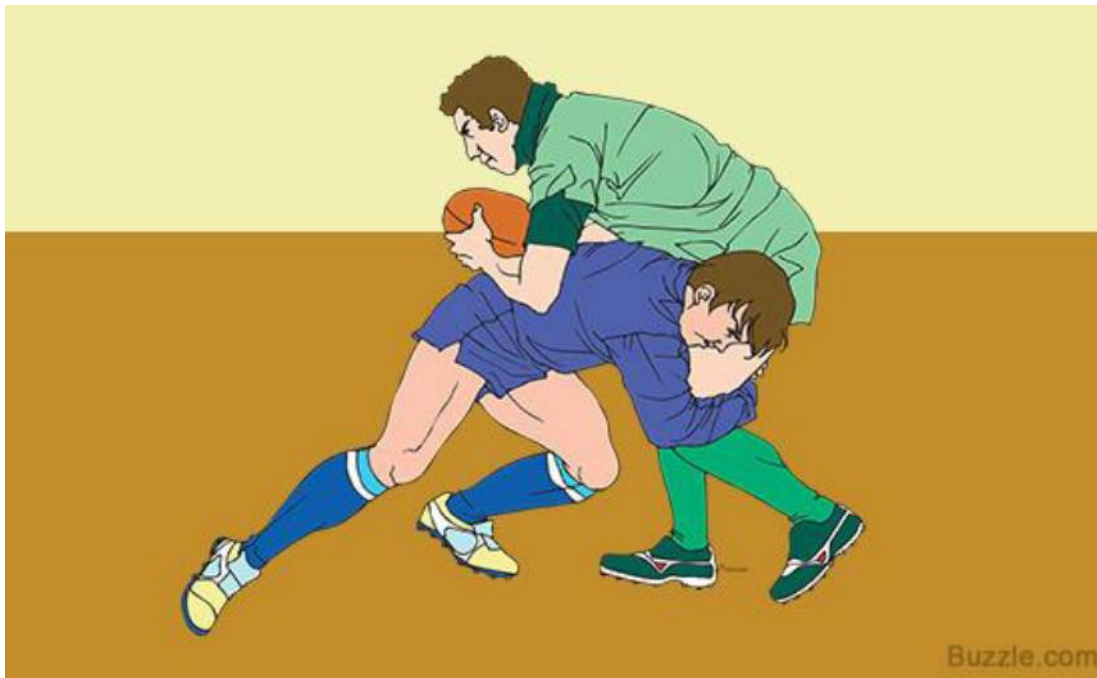


- a) 536N
- b) $536\cos 30^\circ$ N
- c) $536\sin 30^\circ$ N
- d) $536\tan 30^\circ$ N

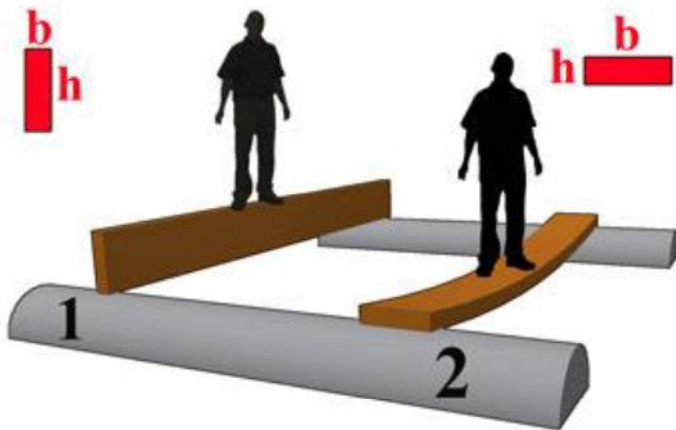
Match the Following

<p>The cannon moves backwards as the cannonball is propelled forwards</p>	<p>Newton's Second Law</p>
<p>The greater the force applied the greater the distance travelled and the higher speed achieved.</p>	<p>Newton's First Law</p>
<p>Low energy state High energy state</p>	<p>Newton's Third Law</p>

Draw free body diagram for the image & explain



Both beams have the same area and even the same shape. Which one is stronger ? Why?



Identify where the block t be placed

