Provincial Department of Education – Sabaragamuwa – Week School

Week: 13th - 19th June, 2021

Subject: Science

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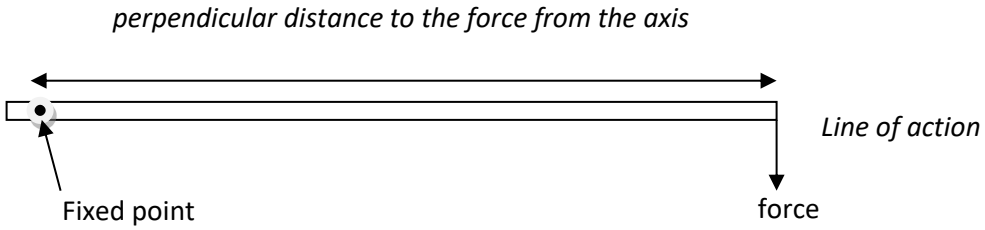
Grade -10

11. Turning effect of a force

- By applying a force, we can rotate or turn an object around a given point.

1. Give 3 instances where an object can rotate by applying a force.



The stick rotates around the point.

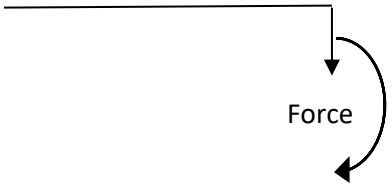
I. What is meant by the moment?

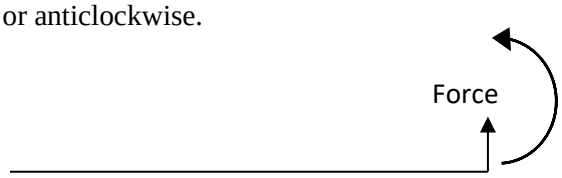
II. Complete the following equation about the moment

Moment =…… X ……

III. What is the measuring unit of moment?

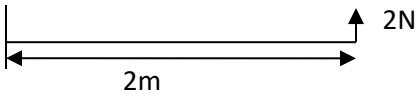
2. Since the moment is a tendency for rotation, depending on whether the rotation is clockwise or anticlockwise, the moment too has to be clockwise or anticlockwise.
   Find the directions of following instances.





……. ……..

3. Calculate the moment and find the direction of following instances.
   a.

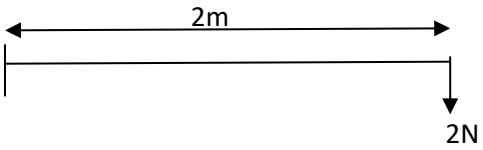


Moment =…… X ……

=…….. X ……

=……..

   b.

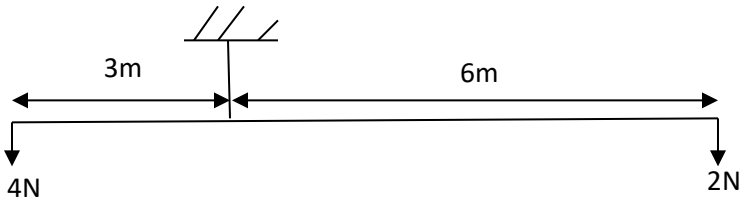


Moment =…… X ……

=…….. X ……

=……..

4. Calculate the moment of the following system.



a. Anti-clock wise Moment =…… X ……

=……X ……

=……..

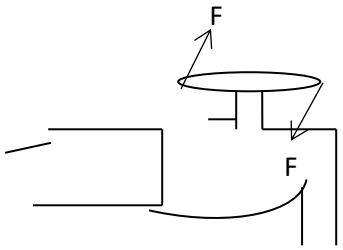
b. clockwise Moment =…… X ……

=……X ……

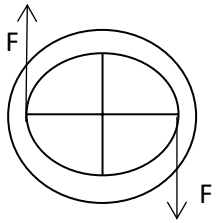
=……..

c. Is the above system rotate or in equilibrium?

5. When a couple of forces is applied on an object, the resultant may be a moment.



A couple of forces acts on the tap head.



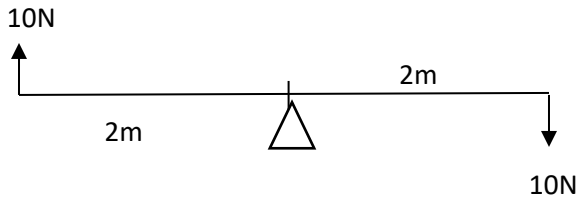
Rotating the steering wheel

- What are the features of the moment of the couple force?

6. Complete the following equation related to the moment of the couple force.

a. Moment of the couple force = ……. X …….

b. Calculate the moment of the couple force.



c. What is the direction of the moment?