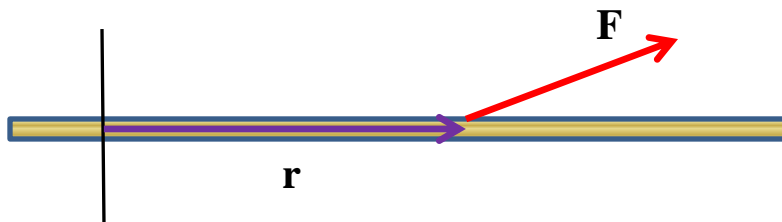


# Torque

1. Symbol –

2. Definition:



Torque is a \_\_\_\_\_.

Magnitude given by:

Direction by the \_\_\_\_\_

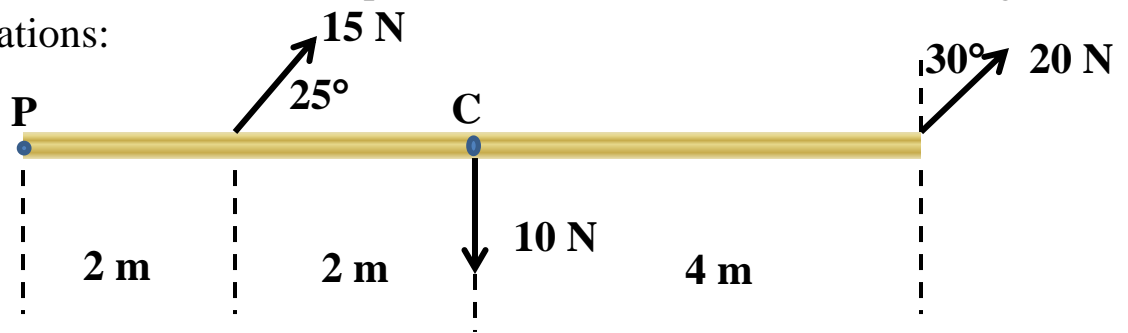
3. Torque depends not only on the force, but also on the \_\_\_\_\_

of \_\_\_\_\_. If you change the axis then you may

change both the \_\_\_\_\_ and \_\_\_\_\_ of the

torque.

**Example:** Calculate the net torque on the bar shown for the following axis of rotations:



A. Point C

B. Point P

4. Torque is the \_\_\_\_\_ analog of force in that it is the cause of \_\_\_\_\_ and the change in \_\_\_\_\_.

5. When a string is wrapped around a pulley, the string will always always come off tangent to the pulley (i.e. perpendicular to the radius of the pulley).

For a string on a pulley, the torque is always \_\_\_\_\_.

**Example:** A compound pulley is created by welding a pulley with a radius of 2 m to a second pulley with a radius of 4 m. Calculate the net torque applied to the compound pulley about an axis in its center from the two strings attached as shown below:

