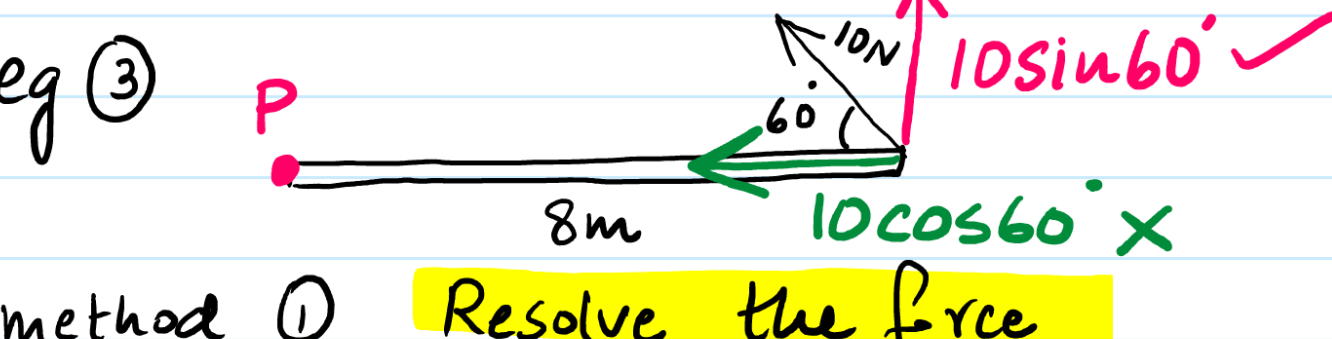
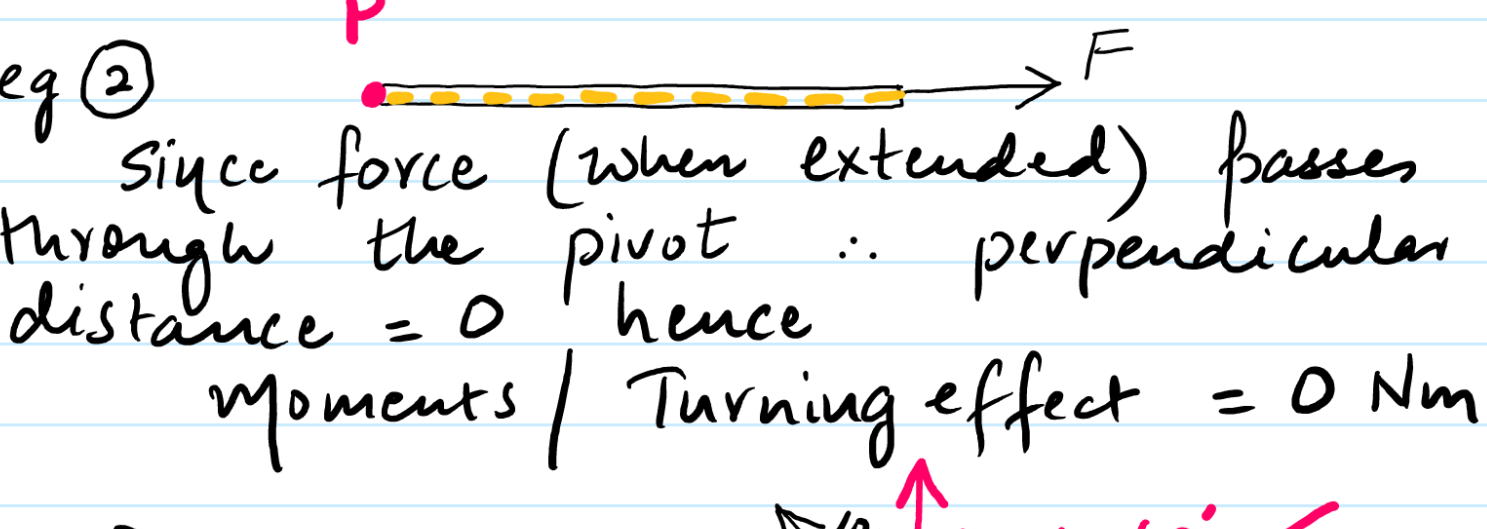
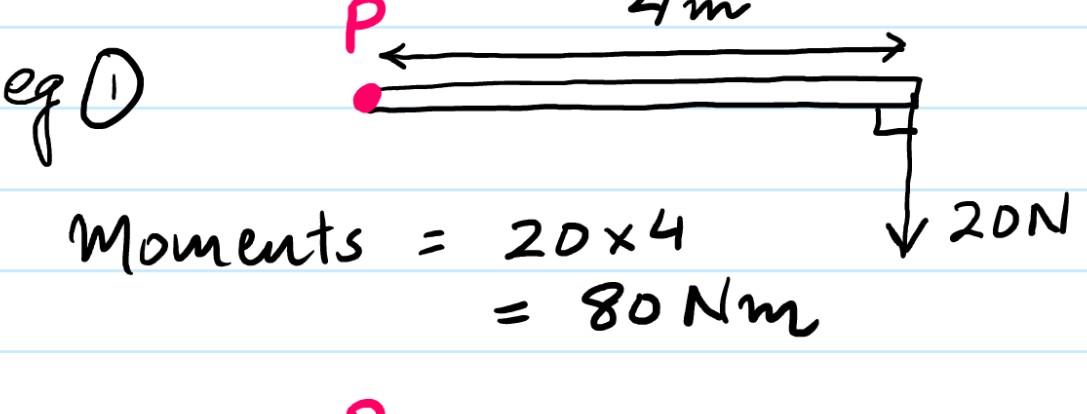
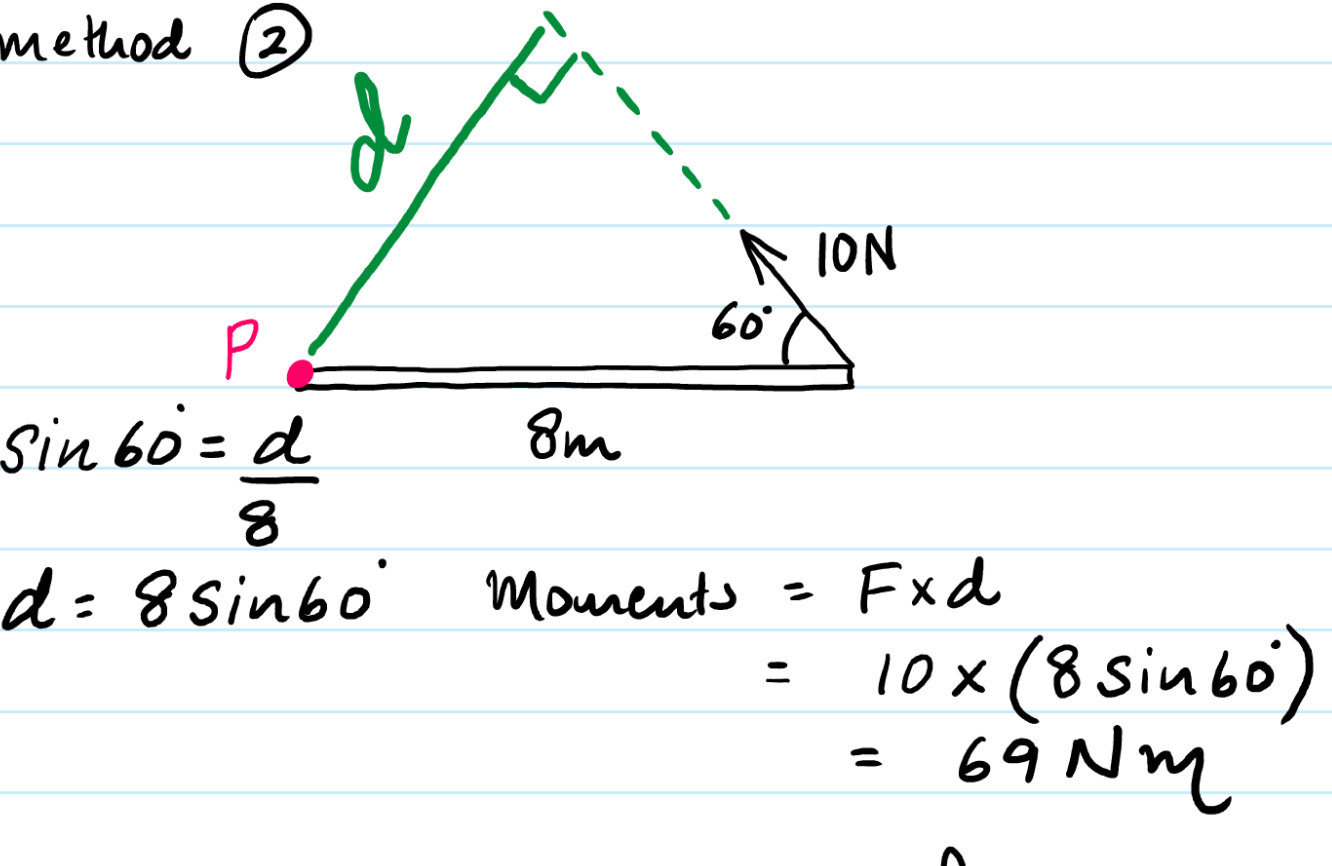


"Turning effect of a force also called moments of a force"

definition :: Product of forces and the perpendicular distance b/w the force and the pivot.



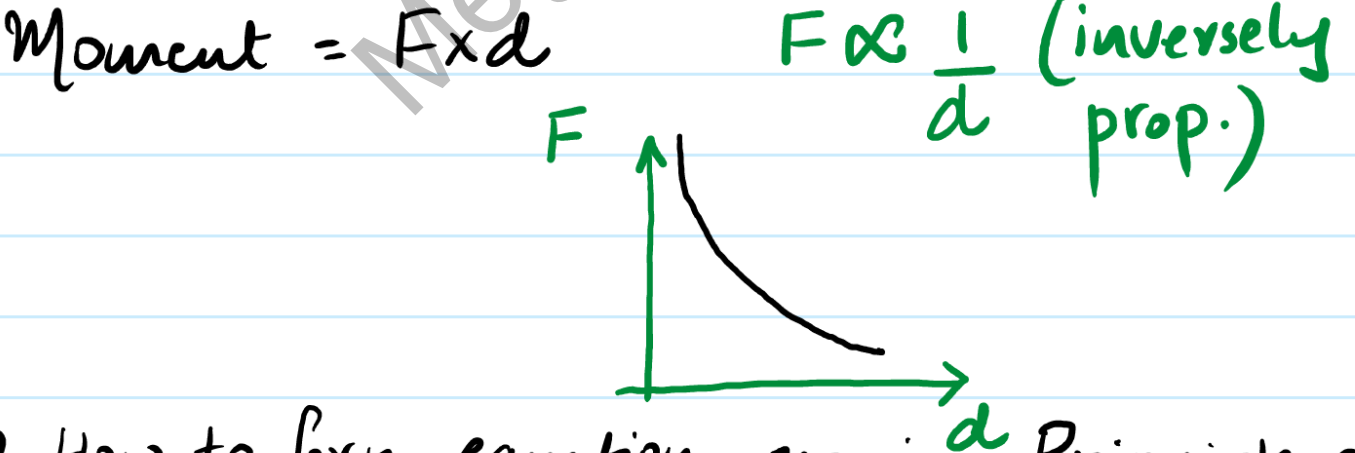
method ① **Resolve the force**
 moments = $F \times d = (10 \sin 60) \times (8) = 69 \text{ Nm}$



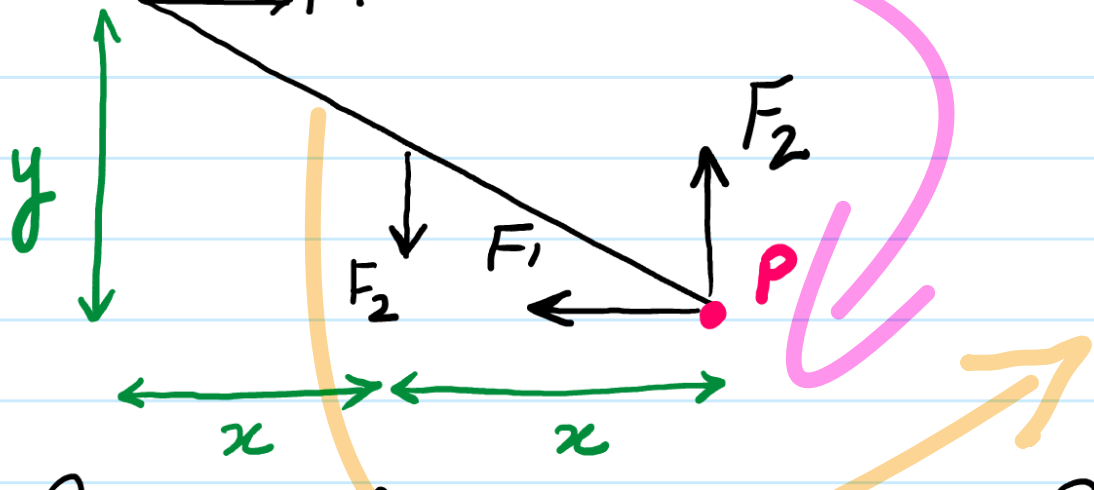
• What are the conditions for Equilibrium

- ① Turning effect = 0 (i.e. C.W.M = A.C.W)
- ② Resultant force = 0 (upward force = downward force, left force = right force).

• Graph of F vs d ?



Q How to form equation using Principle of Moments.

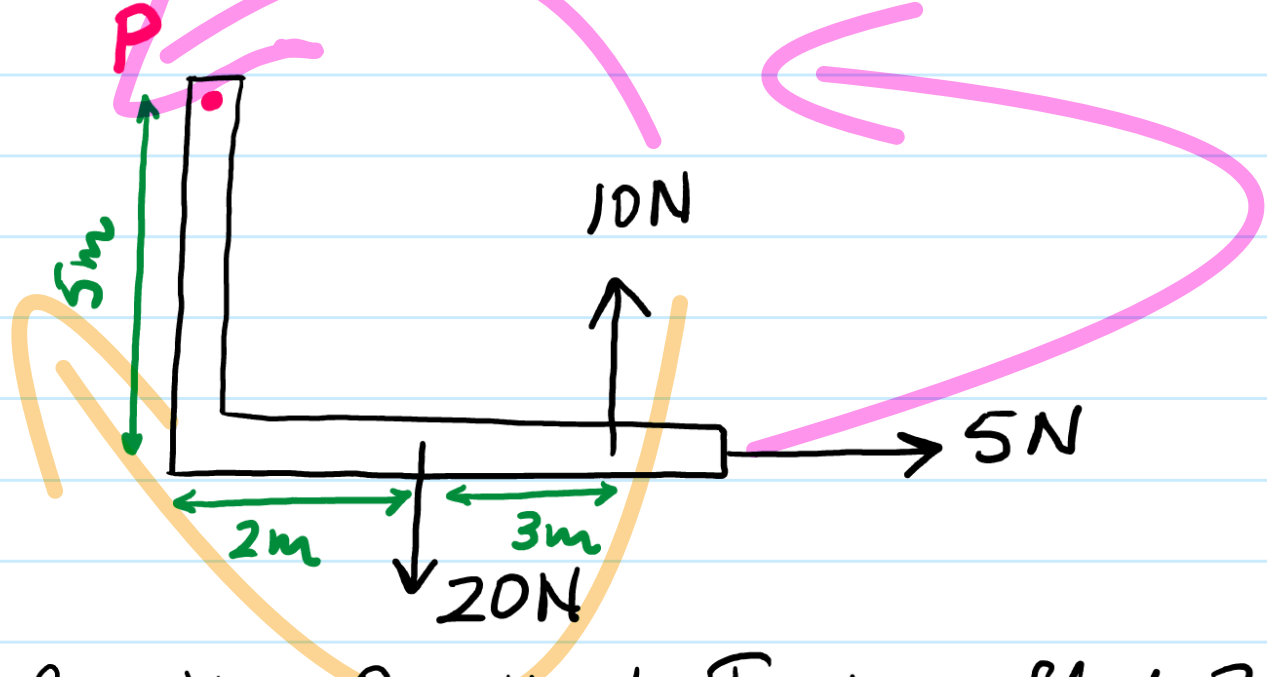


Apply Principle of moments taking P as a pivot to form an equation given that rod is in EQ?

C.W $F_1 \times y$
 A.C.W $F_2 \times x$
 $F_1 \cdot y = F_2 \cdot x$

Q// How to find the Resultant moments?

• Concept of resultant moments will only arise if one Turning effect (either C.W or A.C.W) is greater / lesser than the other Turning effect for eg.



Cal. the Resultant Turning effect ?

A.C.W = $5 \times 5 = 25 \text{ Nm}$ | C.W = $20 \times 2 = 40 \text{ Nm}$
 A.C.W = $10 \times 5 = 50 \text{ Nm}$ | $= 40 \text{ Nm}$
75 Nm | **40 Nm**

Resultant Moments
 Resultant Torque = 35 Nm (ACW).
 Resultant T.e effect