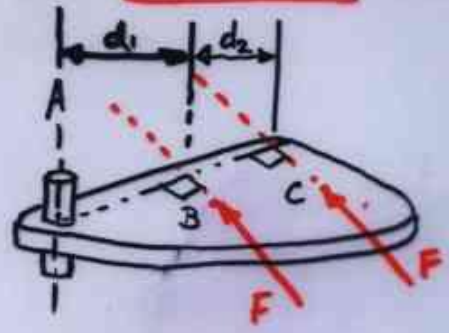
MOMENT:

A FORCE WILL TEND TO ACCELERATE BODY IN DIRECTION OF APPLICATION.

A SECOND EFFECT IS THAT IT WILL TEND TO ROTATE THE BODY. ABOUT AN AXIS



EVEN THOUGH THE 2 FORCES at B & C HAVE EQUAL MAGNITUDE, THEIR MOMENTS ABOUT AXIS A ARE DIFFERENT

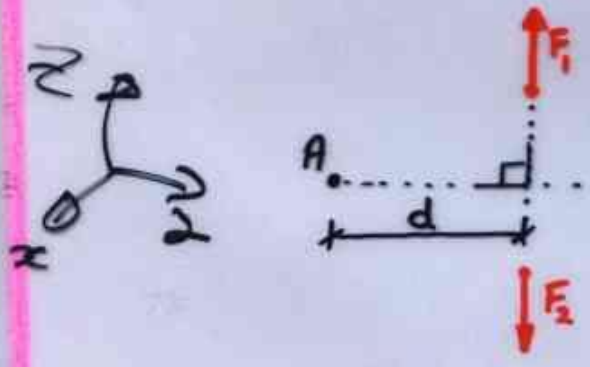
Magnitude of moment:

$M = Fd$, F is already familiar

"d" is the "MOMENT ARM":

PERPENDICULAR DISTANCE between axis and the line of action of force.

Easier to see in 2D (then axis is a point)



DIRECTION of FORCE is IMPORTANT

$\vec{F}_1$ would cancel moment of $\vec{F}_2$ about A

∴ we define moment as a VECTOR QUANTITY

$\|\vec{F}_1\| = \|\vec{F}_2\|$