STATIC EQUILIBRIUM

UNIT 1- SECTION 4
PHYSICS 3204

- There are two types

Type 1: Balancing forces (Translational)

$\mathbf{F_{net} = \Sigma F = 0}$

note must consider things in two dimensions

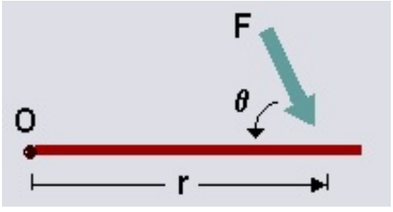
$\mathbf{\Sigma F_x = 0}$ **and** $\mathbf{\Sigma F_y = 0}$

- practice problems involve hanging picture frames (tension) and with booms.

Type 2: Balancing Torques (Rotation)

$\mathbf{\Sigma \tau_{cw} = \Sigma \tau_{ccw}}$

$$\tau = F \bullet r \bullet \sin\theta$$



Steps to solving problems:

1) Choose a pivot point and measure the radius from there. Note that there is no torque at the pivot point.

2) Don't for get the center of mass, Use F_g =mg

- practice problems involve boom with an hinge, person on a beam, or person on a ladder.

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