GENERAL PLANE MOTION:

combination of translation & rotation

General eqns APPLY

$$\sum \vec{F} = m\vec{a}_G \qquad \sum M_G = I_G \alpha$$

we repeat the alternative forms of MOMENT EQN

$$\sum M_P = I_G \alpha \pm m a_G d \qquad \sum M_P = I_P \alpha + \vec{\rho}_G \times m\vec{a}_P$$

SIGN DEPENDS ON RIGHT HAND RULE

$\pm m a_P d$

STEPS:

- CHOOSE COORDINATE SYSTEM
- CHOOSE FORM OF MOMENT EQN
- IDENTIFY KINEMATIC CONSTRAINTS
  - ↳ incorporate into force, momentum eqns
- CHECK NO. of UNKNOWNS $\leq$ NO. of EQNS.
- CORRECTLY IDENTIFY BODY / SYSTEM
- USE ASSUMPTIONS CONSISTENTLY (N.B.)