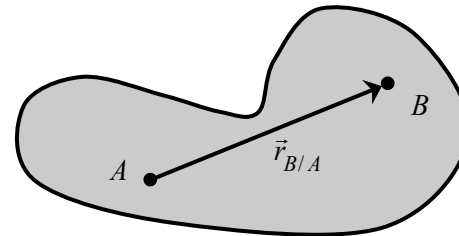


## Summary: Rigid Body Kinematics 4

**PROBLEM:** Two points A and B on the same rigid body undergoing planar motion.

$$\vec{v}_B = \vec{v}_A + \vec{\omega} \times \vec{r}_{B/A}$$

$$\vec{a}_B = \vec{a}_A + \vec{\alpha} \times \vec{r}_{B/A} - \omega^2 \vec{r}_{B/A}$$



### KINEMATICS OF MECHANISMS

- Write down the rigid body velocity equation for each link in a mechanism.
- Combine together the velocity equations and solve for two unknowns from the x- and y-components of this combined equation.
- Repeat for acceleration.
- You generally need to solve the velocity equations *BEFORE* you can solve the acceleration equations – WHY?

