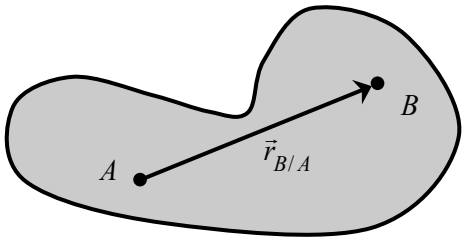
Summary: Rigid Body Kinematics 4

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

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

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



SPECIAL TOPIC: "Instant center of rotation"

The "center of rotation" (instant center) for a body is located at the intersection of the perpendiculars to the velocities of two points on the body.

- The velocity of a point G on a link is perpendicular to the line connecting G and and the instant center C.
- The speed of G is equal to the angular speed of the link times the distance from C to G.
- Where is the IC when the perpendiculars are parallel to each other?