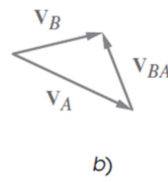
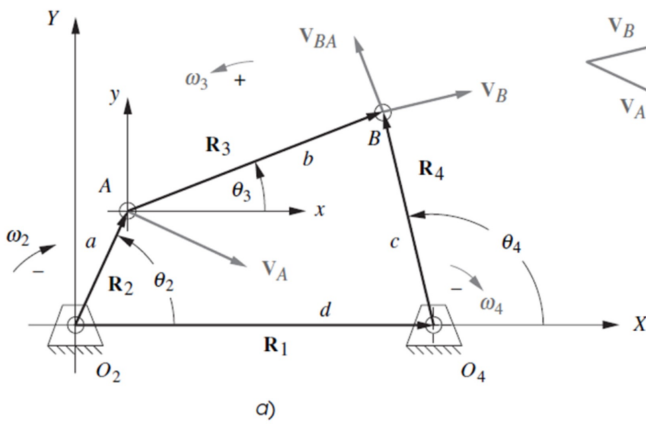


Análisis de Velocidad



$$\vec{R}_2 + \vec{R}_3 - \vec{R}_4 - \vec{R}_1 = 0$$

$$\vec{R} = r e^{i\theta}$$

$$\frac{d\vec{R}}{dt} = \frac{d(r e^{i\theta})}{dt} = r e^{i\theta} \frac{d\theta}{dt} = i r \omega e^{i\theta}$$

$$\Rightarrow i a \omega_2 e^{i\theta_2} + i b \omega_3 e^{i\theta_3} - i c \omega_4 e^{i\theta_4} - i d \omega_1 e^{i\theta_1} = 0$$

$$i a \omega_2 e^{i\theta_2} + i b \omega_3 e^{i\theta_3} - i c \omega_4 e^{i\theta_4} = 0$$

$$\vec{V}_A + \vec{V}_{B/A} - \vec{V}_B = 0 \quad \text{Velocidad relativa}$$

$$e^{i\theta} = \cos\theta + i \sin\theta$$

$$i \cdot i = i^2 = (\sqrt{-1})^2 = -1$$

$$\Rightarrow i a \omega_2 (\cos\theta_2 + i \sin\theta_2) + i b \omega_3 (\cos\theta_3 + i \sin\theta_3) - i c \omega_4 (\cos\theta_4 + i \sin\theta_4) = 0$$

$$a \omega_2 (i \cos\theta_2 - \sin\theta_2) + b \omega_3 (i \cos\theta_3 - \sin\theta_3) - c \omega_4 (i \cos\theta_4 - \sin\theta_4) = 0$$

Real

$$-a \omega_2 \sin\theta_2 - b \omega_3 \sin\theta_3 + c \omega_4 \sin\theta_4 = 0$$

Imaginaria

$$a \omega_2 \cos\theta_2 + b \omega_3 \cos\theta_3 - c \omega_4 \cos\theta_4 = 0$$