2-) a-)

$\overline{OA} = l$

$\overline{AB} = R$

$$\vec{V}_{Rel.B} = \vec{V}_B + \vec{V}_a + \vec{\omega}_{AB} \wedge (B-A)$$

$$\vec{V}_{Rel.B} = \omega_2 \cdot \vec{k} \wedge (R \cdot \vec{j})$$

$$\boxed{\vec{V}_{Rel.B} = -\omega_2 R \vec{i}}$$

$$\vec{V}_{arrast.B} = \vec{V}_0 + \vec{\omega}_{BO} \wedge (B-O)$$

$$\vec{V}_{arrast.B} = -\omega_1 \vec{k} \wedge \left[-e \cos\theta \vec{i} + (R + e \operatorname{sen}\theta)\vec{j}\right]$$

$$\vec{V}_{arrast.B} = \omega_1 e \cos\theta \vec{j} + \omega_1 (R + e \operatorname{sen}\theta)\vec{i}$$

$$\boxed{\vec{V}_{arrast.B} = \omega_1 (R + e \operatorname{sen}\theta)\vec{i} + \omega_1 e \cos\theta \vec{j}}$$

$$\vec{V}_{abs\,B} = \vec{V}_{Rel.B} + \vec{V}_{arrast.B}$$

$$\vec{V}_{abs.B} = -\omega_2 R \vec{i} + \omega_1 (R + e \operatorname{sen}\theta)\vec{i} + \omega_1 e \cdot \cos\theta \vec{j}$$

$$\boxed{\vec{V}_{abs.B} = \left[-\omega_2 R \vec{i} + \omega_1 (R + e \operatorname{sen}\theta)\right]\vec{i} + \omega_1 e \cos \vec{j}}$$

b-)

$$\vec{a}_{Rel.B} = \cancel{\vec{a}_b} + \cancel{\vec{a}_A} + \cancel{\vec{\alpha}_{AB} \wedge (B-A)} + \vec{\omega}_{AB} \wedge \left[\vec{\omega}_{AB} \wedge (B-A)\right]$$

$$\vec{a}_{Rel B} = \omega_2 \vec{k} \wedge \left[\omega_2 \vec{k} \wedge (R\vec{j})\right]$$

$$\vec{a}_{Rel.B} = \omega_2 \vec{k} \wedge (-\omega_2 R \vec{i})$$

$$\boxed{\vec{a}_{Rel.B} = -\omega_2^2 R \vec{j}}$$

$$\vec{a}_{arrast.B} = \vec{a}_0 + \vec{\alpha}_{BO} \wedge (B-O) + \vec{\omega}_{BO} \wedge \left[\vec{\omega}_{BO} \wedge (B-O)\right]$$

$$\vec{a}_{arrast.B} = -\omega_1 \vec{k} \wedge \left(-\omega_1 \vec{k} \wedge \left[-e\cos\theta \vec{i} + (R + e \operatorname{sen}\theta)\vec{j}\right]\right)$$

$$\vec{a}_{arrast.B} = -\omega_1 \vec{k} \wedge \left[\omega_1 (R + e \operatorname{sen}\theta)\vec{i} + \omega_1 e \cos\theta \vec{j}\right]$$

$$\vec{a}_{arrast.B} = -\omega_1^2 (R + e \operatorname{sen}\theta)\vec{j} + \omega_1^2 e \cos\theta \vec{i}$$

$$\boxed{\vec{a}_{arrast.B} = \omega_1^2 . e . \cos\theta \vec{i} - \omega_1^2 (R + e \operatorname{sen}\theta)\vec{j}}$$

$$\vec{a}_{coriolis.B} = 2 \vec{\omega}_{BO} \wedge \vec{V}_{Rel.B}$$

$$\vec{a}_{coriolis.B} = -2\omega_1 \vec{k} \wedge (-\omega_2 R \vec{i})$$

$$\boxed{\vec{a}_{coriolis\, B} = 2 \omega_1 . \omega_2 . R . \vec{j}}$$