4 Parallel component of a vector

Given a vector:

\[ \vec{A} = 4 \quad \text{\small 210°} \]

All answers must be express in the (x,y) coordinate system.

1) Express \( \vec{A} \) in component notation.

Using \( \vec{A}_y = (\vec{A} \cdot \hat{e})\hat{e} \),

2) Obtain the parallel component \( \vec{A}_p \) of \( \vec{A} \) along the L direction.

3) Using \( \vec{A} = \vec{A}_p + \vec{A}_\perp \), deduce the perpendicular component \( \vec{A}_\perp \) of \( \vec{A} \) with respect to the direction L.

(x,y) orthonormal coordinate system