

26. The vector equation is $\vec{R} = \vec{A} + \vec{B} + \vec{C} + \vec{D}$. Expressing \vec{B} and \vec{D} in unit-vector notation, we have $1.69\hat{i} + 3.63\hat{j}$ and $-2.87\hat{i} + 4.10\hat{j}$, respectively. Where the length unit is not displayed in the solution below, the unit meter should be understood.

(a) Adding corresponding components, we obtain $\vec{R} = -3.18\hat{i} + 4.72\hat{j}$.

(b) and (c) Converting this result to polar coordinates (using Eq. 3-6 or functions on a vector-capable calculator), we obtain

$$(-3.18, 4.72) \longrightarrow (5.69 \angle 124^\circ)$$

which tells us the magnitude is 5.69 m and the angle (measured counterclockwise from $+x$ axis) is 124° .