Solution for Question C.1:

– External variables: $\mathbf{x} \in \mathbb{R}^3$, $\mathbf{y} \in \mathbb{R}^2$, $\mathbf{m} \in \mathbb{R}^2$

– Intermediate variables: $\theta \in \mathbb{R}$, $\mathbf{d} \in \mathbb{R}^2$

– Constraints:

$$\begin{cases} (i) & \mathcal{L}_{\text{polar}}\big(d_1, d_2, y_1, \theta\big): \quad \mathbf{d} = y_1 \cdot \begin{pmatrix} \cos(\theta) \\ \sin(\theta) \end{pmatrix} \\ (ii) & d_1 = m_1 - x_1 \\ (iii) & d_2 = m_2 - x_2 \\ (iv) & \theta = x_3 + y_2 \end{cases}$$