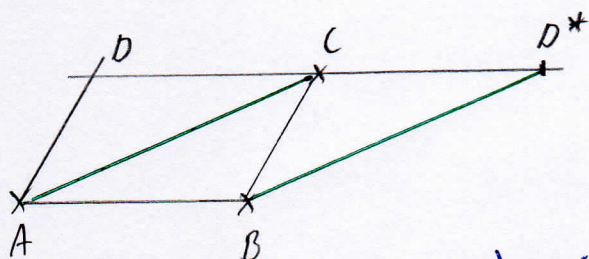


a)



$$\vec{OD} = \vec{OA} + \vec{BC} = \begin{pmatrix} 21 \\ -11 \\ 43 \end{pmatrix} + \begin{pmatrix} 0 - 3 \\ 4 - 7 \\ 5 - (-8) \end{pmatrix} = \begin{pmatrix} 21 \\ -11 \\ 43 \end{pmatrix} + \begin{pmatrix} -3 \\ -3 \\ 13 \end{pmatrix} = \begin{pmatrix} 18 \\ -14 \\ 56 \end{pmatrix}$$

$$\Rightarrow \underline{\underline{D(18 | -14 | 56)}}$$

$$\vec{OD}^* = \vec{OC} + \vec{AB} = \begin{pmatrix} 0 \\ 4 \\ 5 \end{pmatrix} + \begin{pmatrix} 3 - 21 \\ 7 - (-11) \\ -8 - 43 \end{pmatrix} = \begin{pmatrix} 0 \\ 4 \\ 5 \end{pmatrix} + \begin{pmatrix} -18 \\ 18 \\ -51 \end{pmatrix} = \begin{pmatrix} -18 \\ 22 \\ -46 \end{pmatrix}$$

$$\Rightarrow \underline{\underline{D^*(-18 | 22 | -46)}}$$

$$b) \text{ Viereck } ABCD \Rightarrow D(-109 | 201 | 17)$$

$$\text{Viereck } ABDC \Rightarrow \underline{\underline{D^*(111 | -197 | -11)}}$$