Step-1

Given $\mathbf{V}=\mathbf{R}^4$, we have to find $\mathbf{V}^{\perp}$ and $\left(\mathbf{V}^{\perp}\right)^{\perp}$

$$\mathbf{V}^{\perp}=\left\{\alpha=(x,y,,z,w)\in\mathbf{V}/\alpha^T\beta=0,\forall\beta\in\mathbf{V}\right\}$$

$$=\left\{\alpha=(x,y,,z,w)\in\mathbf{V}/(x,y,,z,w)^T(x,y,,z,w)=0\right\}$$

Now $(x,y,,z,w)^T(x,y,,z,w)=0$

$$\Rightarrow\begin{bmatrix}x\\y\\z\\w\end{bmatrix}(x,y,,z,w)=0$$

$$\Rightarrow x^2+y^2+z^2+w^2=0$$

$$\Rightarrow(x,y,,z,w)=(0,0,0,0)$$

$$\Rightarrow\boxed{\mathbf{V}^{\perp}=\{\mathbf{0}\}}$$

Step-2

$$\left(\mathbf{V}^{\perp}\right)^{\perp}=\left\{\alpha=(x,y,z,w)\in\mathbf{V}/\alpha^T\beta=0,\forall\beta\in\mathbf{V}^{\perp}\right\}$$

$$=\left\{\alpha=(x,y,z,w)\in\mathbf{V}/\alpha^T\beta=0,\beta=\mathbf{0}\right\}$$

$$=\left\{\alpha=(x,y,z,w)\in\mathbf{V}/\alpha^T\mathbf{0}=0,\text{independent of }(x,y,z,w)\in\mathbf{V}\right\}$$

$$=\mathbf{V}$$

Therefore $\boxed{\left(\mathbf{V}^{\perp}\right)^{\perp}=\mathbf{V}}$