U, W subspaces of $\mathbb{R}^8$

$\dim U = 3, \dim W = 5$

$U + W = \mathbb{R}^8$

$\mathbb{R}^8 = U \oplus W$

$\dim(U+W) = \dim U + \dim W - \dim(U \cap W)$

$\Leftrightarrow \dim(\mathbb{R}^8) = 3 + 5 - \dim(U \cap W)$

$\Leftrightarrow 8 = 8 - \dim(U \cap W)$

$\Leftrightarrow \dim(U \cap W) = 0$

$\Leftrightarrow U \cap W = \{0\}$

Since $U + W = \mathbb{R}^8$ and $U \cap W = \{0\} \Rightarrow \mathbb{R}^8 = U \oplus W$