姓名: SOLUTION　　葉均承　　應數一線性代數

學號: _____　　**Quiz 4**　　考試日期: 2025/03/19

1. 請框出答案. 2. 不可使用手機、計算器，禁止作弊!

1. Find the projection of [-1, -2, 1] on the subspace $W = sp([1,2,3],[1,1,0])$ in $\mathbb{R}^3$

   Answer:

   1. the projection = $\frac{-4}{19}[-3,3,-1]$　2. the orthogonal complement of the subspace $W^{\perp}$ = $sp([-3,3,-1])$

   Solution：

   Similar with 111-2, quiz 4.

2. Let W is a subspace of $\mathbb{R}^n$, then prove or disprove that the set of all vectors in $\mathbb{R}^n$ orthogonal to every vector in W is a subspace of $\mathbb{R}^n$

Solution：

It is True!! 6-1 #23(c) and Theorem 6.1 (1)