

Proof V-2

Accepted

Not Accepted

I affirm this work abides by the university's Academic Honesty Policy.

Print Name, then Sign

- First due date **Thursday, October 8**.
- Turn in your work on a separate sheet of paper with this page stapled in front.
- Do not include scratch work in your submission.
- There is to be **no collaboration** on any aspect of developing and presenting your proof. Your only resources are: you, the course textbook, me, and pertinent discussions that occur **during class**.
- Follow the Writing Guidelines of the Grading Rubric.
(http://math.ups.edu/~bryans/Current/Fall_2009/290inf_Fall2009.html#tth_sEc5.1)
- Retry: Only use material from the relevant section or earlier.
- Retry: Start over using a new sheet of paper.
- Retry: Restaple with new attempts first and this page on top.

“Know thyself?” If I knew myself, I'd run away.” – Johann von Goethe

V-2 (Section O) Prove both parts of the following.

- Theorem 1** 1. Suppose $S = \{\vec{v}_1, \vec{v}_2, \dots, \vec{v}_{n-1}, \vec{v}_n\}$ is a linearly independent set of vectors and that $n \geq 2$. Then $T = \{\vec{v}_1, \vec{v}_2, \dots, \vec{v}_{n-1}\}$ is also linearly independent.
2. Suppose $S = \{\vec{v}_1, \vec{v}_2, \dots, \vec{v}_{n-1}, \vec{v}_n\}$ is a linearly independent set of vectors and that $\vec{z} \notin \langle S \rangle$. Then $W = \{\vec{v}_1, \vec{v}_2, \dots, \vec{v}_{n-1}, \vec{v}_n, \vec{z}\}$ is also linearly independent.
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