

MATH 290

Thursday, March 11

Section VS

Writing

- reviews to the right
- LaTeX, vectors
- style rewrite
- score check
- Previous comments

Fri - S

BYOB TV shows

Mon - LISS

Tue - Problem Session

Definition VS

$$\{ \underline{0} \} \quad \underline{0} + \underline{0} = \underline{0}$$

$$\alpha \underline{0} = \underline{0}$$

$$\beta \underline{0} = \underline{0}$$

Theorem ZSSM $\mathcal{O}_{\sim} \underline{u} = \underline{0}$ (Bade at start of Chapter V)

Theorem ZVSM Let V be a vector space. Then
 $\alpha \underline{0} = \underline{0}$ for all $\alpha \in \mathbb{F}$.

Proof

$$\alpha \underline{0} = \underline{0} + \alpha \underline{0}$$

$$= (-\alpha \underline{0}) + \alpha \underline{0} + \alpha \underline{0}$$

$$= -\alpha \underline{0} + (\alpha \underline{0} + \alpha \underline{0})$$

$$= -\alpha \underline{0} + \alpha (\underline{0} + \underline{0})$$

$$= -\alpha \underline{0} + \alpha \underline{0}$$

$$= \underline{0}$$

Crazy vector space, \mathbb{C}

$$\text{ZSSM} \Rightarrow \underline{0} \underline{u} = \underline{0}$$

What is the zero vector in \mathbb{C} ?

$$\underline{0} (x, y) = (0x + 0 - 1, 0y + 0 - 1) = (-1, -1)$$

ZVSM (check?)

$$\alpha \underline{0} = \alpha (-1, -1) = (\alpha(-1) + \alpha - 1, \alpha(-1) + \alpha - 1) = (-1, -1) = \underline{0}$$