

Homework 5

MTH 443

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Worked with: Garrett Jepson

1.) Let $\mathcal{B} = (b_1, \dots, b_n)$ be an n -tuple of elements of \mathbb{F}^n . Let $M \in \mathcal{M}_n(\mathbb{F})$ be the matrix whose j -th column is b_j . Show that \mathcal{B} is an ordered basis of \mathbb{F}^n if and only if $\det(M) \neq 0$.