

## QUESTION 1.5 (9/1/70)

Let  $\mathcal{A}$  be a  $\mathbb{C}$ -algebra and let  $\mathcal{B}$  be a subalgebra of  $\mathcal{A}$ .

(a) Prove that  $\mathcal{A}$  is a free  $\mathcal{B}$ -module if and only if  $\mathcal{A}$  is a finitely generated  $\mathcal{B}$ -module.

