

Problem Set 8

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1 Problem 1

1.1 Part a

Define a map

$$\begin{aligned}\phi : \text{hom}_R(\mathbb{Z}_m, A) &\rightarrow A \\ (f : \mathbb{Z}_m \rightarrow A) &\mapsto f(1)\end{aligned}$$

Then noting that homomorphisms preserve orders, this forces $mf(1) = 0_A$