Groups and Rings - SF2729

Skeleton

Jim Holmström - 890503-7571

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Exercise 1. Let R be a commutative ring with unity of prime characteristic p. Show that the map $\phi_p : R \to R$ given by $\phi_p(a) = a^p$ is a homomorphism.

Solution.

Exercise 2. Prove that if F is a field, every proper nontrivial prime ideal of $F[x]$ is maximal.

Solution.