Division rings

Definition

Let A be a ring. It is called a division ring if $(A, \cdot)$ is a group, and $0 \neq 1$.

Definition

Let A be a ring. It is called a field if $(A, \cdot)$ is a commutative group, and $0 \neq 1$.

Question

We require, by definition, that a division ring, or a field, is not the zero ring. Can you justify it?