prime ideals

Definition

Let A be a ring. A two-sided ideal $\mathfrak{a} \subset A$ is prime if $A - \mathfrak{a}$ is closed under multiplication.

A remark

Since the empty product is 1, a prime ideal cannot be the unit ideal.

Question

If A and B are rings, how the prime ideals of A, B, and $A \times B$ are related?