



Definition

Let $(R, +, \cdot)$ be a ring. A ring $(S, +, \cdot)$ is a *subring* of $(R, +, \cdot)$ if $S \subset R$.

Verification

If $(R, +, \cdot)$ is a ring and $S \subset R$, then $+$ is associative and commutative on S because it is on R . Likewise \cdot is associative on S and $+$ and \cdot distribute over each other on S because they do on R . So we have restricted the number of conditions to check, and arrive at our first statement of sufficient conditions on S that ensure $(S, +, \cdot)$ is a ring.

