



Math for the people, by the people.

support (graded ring)

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Defines	support
Defines	finite support

Let S be a groupoid (semigroup, group) and suppose $R = \bigoplus_{s \in S} R_s$ is an S -graded ring.

We define the *support* of r to be the set $\text{supp}(r) = \{s \in S \mid r_s \neq 0\}$. We can extend this definition to $\text{supp}(R) = \bigcup \text{supp}(R_s \neq 0)$. If $\text{supp}(R)$ is a finite set then we say that the ring R has *finite support*.