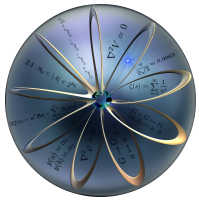

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ordered integral domain with well-ordered positive elements

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Theorem. If $(R, \leq)$ is an http://planetmath.org/OrderedRingordered integral domain and if the set $R_+ = \{r \in R : \ 0 < r\}$ of its http://planetmath.org/PositivityIn elements is well-ordered, then R and R_+ can be expressed as sets of multiples of the unity as follows:

- $R = \{m \cdot 1 : \ m \in \mathbb{Z}\}$,
- $R_+ = \{n \cdot 1 : \ n \in \mathbb{Z}_+\}$.

The theorem may be interpreted so that such an integral domain is isomorphic with the ordered ring $\mathbb{Z}$ of rational integers.