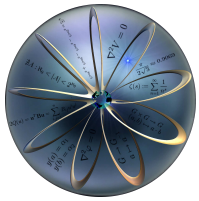

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isolated subgroup

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Defines	rank of ordered group

Let G be a ordered group and F its subgroup. We call this subgroup if every element f of F and every element g of G satisfy

$$f \leqq g \leqq 1 \;\; \Rightarrow \;\; g \in F.$$

If an ordered group G has only a finite number of isolated subgroups, then the number of proper ($\neq G$) isolated subgroups of G is the of G.

Theorem. Let G be an abelian ordered group with `http://planetmath.org/OrderGroup`order at least 2. The of G equals one iff there is an order-preserving isomorphism from G onto some subgroup of the multiplicative group of real numbers.

References

[1] M. Larsen & P. McCarthy: *Multiplicative theory of ideals.* Academic Press. New York (1971).