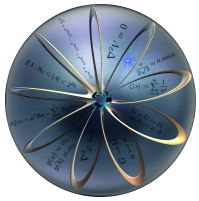

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metacyclic group

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Definition

A *metacyclic group* is a group G that possesses a normal subgroup N such that N and G/N are both cyclic.

Examples

- All cyclic groups, and direct products of two cyclic groups.
- All dihedral groups (including the infinite dihedral group).
- All finite groups whose Sylow subgroups are cyclic (and so, in particular, all finite groups of `http://planetmath.org/SquareFreeNumber`squarefree order).

Properties

`http://planetmath.org/Subgroup`Subgroups and `http://planetmath.org/QuotientGroup`quot
of metacyclic groups are also metacyclic.

Metacyclic groups are obviously supersolvable, with Hirsch length at most 2.