

RESIDUATED LATTICES OF SIZE UP TO 6

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There are $1 + 1 + 3 + 20 + 149 + 1488 = 1662$ residuated lattices with ≤ 6 elements. In the list below, each algebra is named R_{ij}^{mn} where m is the cardinality and n enumerates nonisomorphic lattices of size m , in order of decreasing height. The depth of the identity element 1 is given by i , and j enumerates nonisomorphic algebras. For lattices of the same height distributive lattices appear before modular lattices, followed by nonmodular lattices, and selfdual lattices appear before nonselfdual lattices. Algebras with more central elements (round circles) are listed earlier, hence commutative residuated lattices precede noncommutative ones. Finally, algebras are listed in decreasing order of number of idempotents (black nodes).

The monoid operation is indicated by labels. If a nonobvious product xy is not listed, then it can be deduced from the given information: either it follows from idempotence ($x^2 = x$) indicated by a black node or from commutativity or there are products $uv = wz$ such that $u \leq x \leq w$ and $v \leq y \leq z$ (possibly $uv = \perp\perp$ or $wz = \top\top$).

If you have comments or notice any issues in this list, please email jipsen.AT.chapman.edu.

- = central idempotent
- = central nonidempotent
- = noncentral idempotent
- = noncentral nonidempotent



























































































