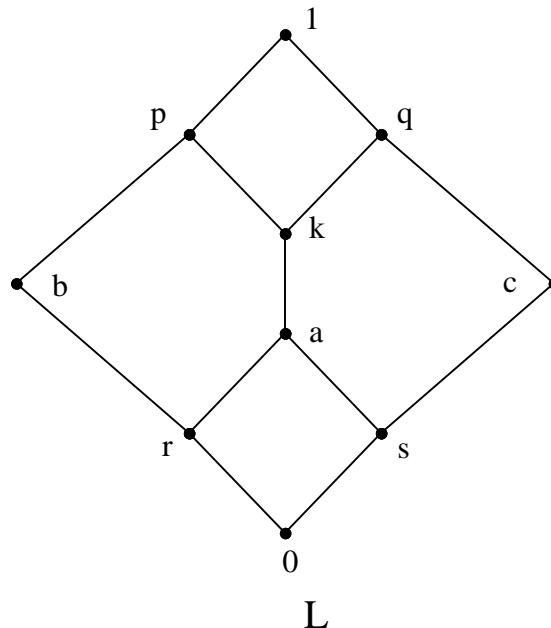


## A NEW DEFINITION OF LATTICES

*W.B.Vasantha Kandasamy and M. S. Sridhar*

In this paper we give a new identity for lattices and prove all lattices, which are modular, satisfy this identity. Let  $L$  be a lattice. If  $(a + b)(a + c)(a + d)(a + e) = a + b(a + c)(a + d)(a + e) + c(a + b)(a + d)(a + e) + d(a + b)(a + c)(a + e) + e(a + b)(a + c)(a + d)$  for all  $a, b, c, d, e$  in  $L$  then we say  $L$  is a  $S$ -lattice and this identity will be called as  $S$ -identity. Let  $M$  be a modular lattice then  $M$  is a  $S$ -lattice. Every  $S$ -lattice need not be modular. But there exists lattices, which are  $S$ -lattices.



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We propose the following problem.

$L$  is a  $S$ -lattice if and only if  $l$  has no sublattice whose homomorphic image is isomorphic to the lattice  $L$  given in the figure.

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