

Complete Representations for Distributive Lattices

It is demonstrated how a proof of the known result that the class of completely representable Boolean algebras is elementary emerges from more general considerations of representations preserving arbitrary joins and/or meets for bounded, distributive lattices. It is also shown that the class of distributive lattices with representations preserving both arbitrary meets and arbitrary joins is not elementary. The case for the class of bounded, distributive lattices with representations preserving arbitrary meets (similarly arbitrary joins by a duality result) is more complicated. It is shown that this class is closed under ultraproducts, the ultraroot question being open at this time.