

Free Completely Distributive Extensions G.B. J.H. M.J.

1.

Defn A complete lattice L is completely distributive (CD) if

$$\bigwedge_{I} \bigvee_{J_i} a_{ij} = \bigvee_{\prod J_i} \bigwedge_{I} a_{i \times (i)}$$

Note Throughout, all lattices bounded & distributive and all homomorphisms preserve bounds.

Defn F is a free CD lattice over a set X if (1) F is CD, (2) F is completely generated by X , and (3) any set map $f: X \rightarrow C$ to a CD C extends to a complete homo $f^*: F \rightarrow C$



