Definition (Lattice homomorphism) Given two bounded lattices **P**, **Q**, a *lattice homomorphism* is a map $f: \mathbf{P} \to \mathbf{Q}$

 $f(p \land pq) = f(p) \land of(q)$

 $f(p \lor pq) = f(p) \lor of(q)$

 $f(\perp_{\mathbf{P}}) = \perp_{\mathbf{O}}$

 $f(\mathsf{T}_{\mathbf{P}}) = \mathsf{T}_{\mathbf{O}}$

which preserves meets, joins, top, and bottom: