

l4\_poset\_1  
(TMQVF4wdcMMJkqGk5WLtzMhk6HJ4XeJs1kD)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l1\_orders\_2 X0) \Rightarrow (l1\_struct\_0 X0) \quad (3)$$

Assume the following.

$$\forall X0. (l1\_orders\_2 X0) \Rightarrow (\forall X1. \forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1\_orders\_2 X0 X2 X3)))))) \quad (4)$$

**Theorem 1**

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((r1\_lattice3 X0 (u1\_struct\_0 X0) X1) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r1\_orders\_2 X0 X1 X2))))))$$