

# t29\_lopclset (TMHDPtEbPyGG- WEmjyj5Wm8pfpU5aDWEDN6f)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $v13\_lattices : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v19\_lattices : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v20\_lattices : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_filter\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_lattices : \iota \Rightarrow \iota$  be given. Let  $k1\_filter\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices \\ & X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v19\_lattices X1 X0) \wedge \\ & ((v20\_lattices X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v13\_lattices \\ & X0) \wedge (l3\_lattices X0)))) \wedge (k5\_lattices X0 \in X1)) \Rightarrow ((X1 = k1\_filter\_0 \\ & X0) \wedge (X1 = u1\_struct\_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices \\ & X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v19\_lattices X1 X0) \wedge \\ & ((v20\_lattices X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow ((v1\_filter\_0 X1 X0) \Leftrightarrow ((X1 \neq u1\_struct\_0 X0) \wedge (\forall X2. \\ & ((\neg v1\_xboole\_0 X2) \wedge ((v19\_lattices X2 X0) \wedge ((v20\_lattices X2 X0) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((r1\_tarski \\ & X1 X2) \Rightarrow ((X2 = u1\_struct\_0 X0) \vee (X1 = X2)))))) \end{aligned} \quad (2)$$

## Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v13\_lattices \\ & X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v19\_lattices \\ & X1 X0) \wedge ((v20\_lattices X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow (\neg (v1\_filter\_0 X1 X0) \wedge (k5\_lattices X0 \in X1))) \end{aligned}$$