

# t19\_openlatt (TML- KiCUMjN5tXCcLuS3iybzcEm8Qy6LpRoX)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $v11\_lattices : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_filter\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_openlatt : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k2\_filter\_0 X0 X1) \wedge (( \\ & k3\_lattices X0 X1 X2 \in k2\_filter\_0 X0 X1) \wedge (k3\_lattices X0 X2 X1 \in k2\_filter\_0 \\ & X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k2\_filter\_0 X0 X2) \Leftrightarrow (r3\_lattices \\ & X0 X2 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v11\_lattices \\ & X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge ((v19\_lattices \\ & X1 X0) \wedge ((v20\_lattices X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k7\_subset\_1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)) (k10\_openlatt X0 X2) (k10\_openlatt X0 X3)) \Leftrightarrow ( \\ & X2 \in X1) \wedge (\neg X3 \in X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge \\
& (l3\_lattices X0))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow ((\neg v1\_xboole\_0 \\
& (k2\_filter\_0 X0 X1)) \wedge ((v19\_lattices (k2\_filter\_0 X0 X1) X0) \wedge \\
& (v20\_lattices (k2\_filter\_0 X0 X1) X0) \wedge (m1\_subset\_1 (k2\_filter\_0 \\
& X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v11\_lattices \\
& X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((\neg r3\_lattices \\
& X0 X1 X2) \Rightarrow (k2\_filter\_0 X0 X1 \in k7\_subset\_1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0)) (k10\_openlatt X0 X1) (k10\_openlatt X0 X2))))))
\end{aligned}$$