

t16_openlatt
(TMHjb8TwPddCh7zbNUVmVXei3Py7cGSgppA)

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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 $k10_openlatt : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\ X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (k10_openlatt X0 X1 = \text{ReplSep } (\text{toset } (\lambda X2 : \iota. (\neg v1_xboole_0 \\ X2) \wedge ((v19_lattices X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 \\ X2 (k1_zfmisc_1 (u1_struct_0 X0))))))) (\lambda X2 : \iota. X1 \in X2) (\lambda X2 : \\ \iota. X2))) \quad (3) \end{aligned}$$

Theorem 1

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\ X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2. (X2 \in k10_openlatt X0 X1) \Leftrightarrow (((\neg v1_xboole_0 X2) \wedge \\ ((v19_lattices X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (\\ k1_zfmisc_1 (u1_struct_0 X0)))))) \wedge (X1 \in X2)))) \end{aligned}$$