

t15_lopclset
(TMU8kt4tFrqTP3xR51pUj5BDoSbcsV3auvS)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v17_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $k7_lopclset : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (k7_lopclset X0 = \\ & ReplSep (toset (\lambda X1 : \iota. (\neg v1_xboole_0 X1) \wedge ((v19_lattices \\ & X1 X0) \wedge ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))))) (\lambda X1 : \iota. v1_filter_0 X1 X0) (\lambda X1 : \iota. X1)) \end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge \\ & ((v10_lattices X1) \wedge ((v17_lattices X1) \wedge (l3_lattices X1)))))) \Rightarrow \\ & ((X0 \in k7_lopclset X1) \Leftrightarrow (\exists X2. ((\neg v1_xboole_0 X2) \wedge ((v19_lattices \\ & X2 X1) \wedge ((v20_lattices X2 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X1))))))) \wedge ((X2 = X0) \wedge (v1_filter_0 X2 X1))) \end{aligned}$$