

t16_prelamb

(TMN6m6hLtWfSo6fKfGynLxpAAmr1scL1NcP)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_prelamb : \iota \Rightarrow o$ be given. Let $l2_prelamb : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_prelamb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_prelamb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_prelamb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_prelamb : \iota \Rightarrow o$ be given. Let $k3_prelamb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_prelamb X0) \wedge (l2_prelamb \\
& \quad X0))) \Rightarrow (\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (((r2_prelamb X0 X1 X2) \wedge (r2_prelamb X0 (k12_finseq_1 (u1_struct_0 \\
& \quad X0) X3) X4)) \Rightarrow (r2_prelamb X0 (k8_finseq_1 (u1_struct_0 X0) X1 (k12_finseq_1 \\
& \quad (u1_struct_0 X0) (k1_prelamb X0 X2 X3))) X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_prelamb X0) \wedge (l2_prelamb \\
& \quad X0))) \Rightarrow (\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (((r2_prelamb X0 X1 X2) \wedge (r2_prelamb X0 (k12_finseq_1 (u1_struct_0 \\
& \quad X0) X3) X4)) \Rightarrow (r2_prelamb X0 (k8_finseq_1 (u1_struct_0 X0) (k12_finseq_1 \\
& \quad (u1_struct_0 X0) (k2_prelamb X0 X3 X2)) X1 X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l2_prelamb X0) \Rightarrow (l1_prelamb X0) \tag{4}$$

Assume the following.

$$\forall X0.(l1_prelamb\ X0)\Rightarrow(l1_struct_0\ X0) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge(l1_prelamb \\ &X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0 \\ &X0))))\Rightarrow(m1_subset_1\ (k2_prelamb\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge(l1_prelamb \\ &X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0 \\ &X0))))\Rightarrow(m1_subset_1\ (k1_prelamb\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge(m1_subset_1\ X1\ X0))\Rightarrow \\ &(m2_finseq_1\ (k12_finseq_1\ X0\ X1)\ X0) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l2_prelamb X0)) \Rightarrow ((v10_prelamb \\
& X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (r2_prelamb \\
& X0 (k12_finseq_1 (u1_struct_0 X0) X1) X1)) \wedge ((\forall X1.(m2_finseq_1 \\
& X1 (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 ((r2_prelamb \\
& X0 (k8_finseq_1 (u1_struct_0 X0) X1 (k12_finseq_1 (u1_struct_0 \\
& X0) X3)) X2) \Rightarrow (r2_prelamb X0 X1 (k2_prelamb X0 X2 X3)))))) \wedge ((\forall X1. \\
& (m2_finseq_1 X1 (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 \\
& ((r2_prelamb X0 (k8_finseq_1 (u1_struct_0 X0) (k12_finseq_1 (\\
& u1_struct_0 X0) X3) X1) X2) \Rightarrow (r2_prelamb X0 X1 (k1_prelamb X0 X3 X2)))))) \wedge \\
& ((\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& m2_finseq_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m2_finseq_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& X6 (u1_struct_0 X0)) \Rightarrow (((r2_prelamb X0 X1 X5) \wedge (r2_prelamb X0 (k8_finseq_1 \\
& (u1_struct_0 X0) (k8_finseq_1 (u1_struct_0 X0) X2 (k12_finseq_1 \\
& (u1_struct_0 X0) X4)) X3) X6)) \Rightarrow (r2_prelamb X0 (k8_finseq_1 (u1_struct_0 \\
& X0) (k8_finseq_1 (u1_struct_0 X0) (k8_finseq_1 (u1_struct_0 X0) \\
& X2 (k12_finseq_1 (u1_struct_0 X0) (k2_prelamb X0 X4 X5))) X1) X3) \\
& X6)))))) \wedge ((\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\\
& \forall X2.(m2_finseq_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m2_finseq_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r2_prelamb X0 X1 X5) \wedge (r2_prelamb \\
& X0 (k8_finseq_1 (u1_struct_0 X0) (k8_finseq_1 (u1_struct_0 X0) \\
& X2 (k12_finseq_1 (u1_struct_0 X0) X4)) X3) X6)) \Rightarrow (r2_prelamb X0 \\
& (k8_finseq_1 (u1_struct_0 X0) (k8_finseq_1 (u1_struct_0 X0) (\\
& k8_finseq_1 (u1_struct_0 X0) X2 X1) (k12_finseq_1 (u1_struct_0 \\
& X0) (k1_prelamb X0 X5 X4))) X3) X6)))))) \wedge ((\forall X1.(m2_finseq_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 X0)) \Rightarrow ((r2_prelamb X0 (k8_finseq_1 (u1_struct_0 \\
& X0) (k8_finseq_1 (u1_struct_0 X0) (k8_finseq_1 (u1_struct_0 X0) \\
& X1 (k12_finseq_1 (u1_struct_0 X0) X3)) (k12_finseq_1 (u1_struct_0 \\
& X0) X4)) X2) X5) \Rightarrow (r2_prelamb X0 (k8_finseq_1 (u1_struct_0 X0) (\\
& k8_finseq_1 (u1_struct_0 X0) X1 (k12_finseq_1 (u1_struct_0 X0) \\
& (k3_prelamb X0 X3 X4))) X2) X5)))))) \wedge ((\forall X1.(m2_finseq_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (((r2_prelamb X0 X1 X3) \wedge (r2_prelamb \\
& X0 X2 X4)) \Rightarrow (r2_prelamb X0 (k8_finseq_1 (u1_struct_0 X0) X1 X2) (\\
& k3_prelamb X0 X3 X4)))))))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_prelamb X0) \wedge (l2_prelamb \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow ((r2_prelamb X0 (k12_finseq_1 (u1_struct_0 \\ X0) X1) X2) \Rightarrow ((r2_prelamb X0 (k12_finseq_1 (u1_struct_0 X0) (k2_prelamb \\ X0 X1 X3)) (k2_prelamb X0 X2 X3)) \wedge (r2_prelamb X0 (k12_finseq_1 (\\ u1_struct_0 X0) (k1_prelamb X0 X3 X1)) (k1_prelamb X0 X3 X2)))))))))) \end{aligned}$$