

t14_bhsp_1

(TMJoXhe2i93432PFb13CTQfmneSVv8i4Qrp)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_bhsp_1 : \iota \Rightarrow o$ be given. Let $l1_bhsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_bhsp_1 \\ & X0 (k4_algstr_0 X0 X1) X2 = k1_real_1 (k2_bhsp_1 X0 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_algstr_0 X0 X1) = k4_struct_0 \\ & X0) \wedge (k1_algstr_0 X0 (k4_algstr_0 X0 X1) X1 = k4_struct_0 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 \\ & X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ & ((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 \\ & X0)\wedge((v2_bhs_1 X0)\wedge(l1_bhs_1 X0))))))))))\wedge((m1_subset_1 \\ & X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0)))\Rightarrow(k2_bhs_1 \\ & X0 X1 X2 = k1_bhs_1 X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.(l1_bhs_1 X0)\Rightarrow(l1_rlvect_1 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 \\ & X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ & ((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 \\ & X0)\wedge((v2_bhs_1 X0)\wedge(l1_bhs_1 X0))))))))))\wedge((m1_subset_1 \\ & X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 \\ & (k2_bhs_1 X0 X1 X2) k1_numbers) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_bhs_1 X0))\Rightarrow((v2_bhs_1 X0)\Leftrightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0))\Rightarrow(\forall X4.(m1_subset_1 X4 k1_numbers)\Rightarrow(((k1_bhs_1 X0 \\ & X1 X1 = k6_numbers)\Rightarrow(X1 = k4_struct_0 X0))\wedge(((X1 = k4_struct_0 X0)\Rightarrow \\ & (k1_bhs_1 X0 X1 X1 = k6_numbers))\wedge((r1_xreal_0 k6_numbers (k1_bhs_1 \\ & X0 X1 X1))\wedge((k1_bhs_1 X0 X1 X2 = k1_bhs_1 X0 X2 X1)\wedge((k1_bhs_1 \\ & X0 (k1_algstr_0 X0 X1 X2) X3 = k7_real_1 (k1_bhs_1 X0 X1 X3) (k1_bhs_1 \\ & X0 X2 X3))\wedge(k1_bhs_1 X0 (k1_rlvect_1 X0 X1 X4) X2 = k8_real_1 X4 (\\ & k1_bhs_1 X0 X1 X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v13_algstr_0 \\
& X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 \\
& X0) \wedge (v2_bhsp_1 X0) \wedge (l1_bhsp_1 X0)))))) \wedge (m1_subset_1 \\
& X1 (u1_struct_0 X0) \wedge (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (k2_bhsp_1 \\
& X0 X1 X2 = k2_bhsp_1 X0 X2 X1)
\end{aligned} \tag{11}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0) \Rightarrow (k2_bhsp_1 X0 (k4_struct_0 X0) X1 = k6_numbers))
\end{aligned}$$