

t4_bhsp_5

(TMMD1fzY6bhEhvZcsYudb86vSe2h4fsj4Cz)

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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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (k2_bhsp_1 X0 (k4_struct_0 X0) X1 = k6_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge ((v2_bhsp_1 X0) \wedge (l1_bhsp_1 X0)))))))))) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (k2_bhsp_1 \\ & X0 X1 X2 = k1_bhsp_1 X0 X1 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_bhs_p_1 X0)) \Rightarrow ((v2_bhs_p_1 X0) \Leftrightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow (((k1_bhs_p_1 X0 \\
& X1 X1 = k6_numbers) \Rightarrow (X1 = k4_struct_0 X0)) \wedge (((X1 = k4_struct_0 X0) \Rightarrow \\
& (k1_bhs_p_1 X0 X1 X1 = k6_numbers)) \wedge ((r1_xxreal_0 k6_numbers (k1_bhs_p_1 \\
& X0 X1 X1)) \wedge ((k1_bhs_p_1 X0 X1 X2 = k1_bhs_p_1 X0 X2 X1) \wedge ((k1_bhs_p_1 \\
& X0 (k1_algstr_0 X0 X1 X2) X3 = k7_real_1 (k1_bhs_p_1 X0 X1 X3) (k1_bhs_p_1 \\
& X0 X2 X3)) \wedge (k1_bhs_p_1 X0 (k1_rlvect_1 X0 X1 X4) X2 = k8_real_1 X4 (\\
& k1_bhs_p_1 X0 X1 X2))))))))))))) \\
& \tag{4}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhs_p_1 \\
& X0) \wedge (l1_bhs_p_1 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow ((X1 = k4_struct_0 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (k2_bhs_p_1 X0 X1 X2 = k6_numbers))))))
\end{aligned}$$