

t46_bhsp_2 (TMawzPnrBaXBqzgNZGfnFF-
PtTMQQSJUj8nZ)

October 27, 2020

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 $k1_numbers : \iota$ be given. Let $k4_bhsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow ((X1 \in k4_bhsp_2 X0 X2 X3) \Leftrightarrow (\neg r1_xxreal_0 \\ & X3 (k4_bhsp_1 X0 X2 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$v3_membered k1_numbers \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge ((v2_bhspl_1 X0) \wedge (l1_bhspl_1 X0)))))))))) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k4_bhspl_1 X0 X1 X2) k1_numbers) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (v3_membered X0) \Rightarrow (v2_membered X0) \quad (5)$$

Assume the following.

$$\forall X0. (v2_membered X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v1_xxreal_0 X1)) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhspl_1 \\ & X0) \wedge (l1_bhspl_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow (\forall X4. (m1_subset_1 X4 k1_numbers) \Rightarrow \\ & (((X1 \in k4_bhspl_2 X0 X2 X3) \wedge (r1_xxreal_0 X3 X4)) \Rightarrow (X1 \in k4_bhspl_2 \\ & X0 X2 X4)))))) \end{aligned}$$