

t52_fvaluat1
(TMFYuzSjuqjoJa95YkLcAbHohrQxoXRrrxC)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ 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 $v1_realset2 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_fvaluat1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_fvaluat1 : \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_numbers : \iota$ be given. Let $k7_fvaluat1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $k6_fvaluat1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge \\ & ((v13_algstr_0 X0) \wedge (v3_group_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v1_realset2 X0) \wedge \\ & (l6_algstr_0 X0)))))) \wedge (m1_fvaluat1 X1 X0) \Rightarrow ((\neg v2_struct_0 \\ & (k7_fvaluat1 X0 X1)) \wedge (\neg v6_struct_0 (k7_fvaluat1 X0 X1)) \wedge (v13_algstr_0 \\ & (k7_fvaluat1 X0 X1)) \wedge (v36_algstr_0 (k7_fvaluat1 X0 X1)) \wedge (v3_group_1 \\ & (k7_fvaluat1 X0 X1)) \wedge (v5_group_1 (k7_fvaluat1 X0 X1)) \wedge (v4_vectsp_1 \\ & (k7_fvaluat1 X0 X1)) \wedge (v5_vectsp_1 (k7_fvaluat1 X0 X1)) \wedge (v2_rlvect_1 \\ & (k7_fvaluat1 X0 X1)) \wedge (v3_rlvect_1 (k7_fvaluat1 X0 X1)) \wedge (v4_rlvect_1 \\ & (k7_fvaluat1 X0 X1)) \wedge (l6_algstr_0 (k7_fvaluat1 X0 X1)))))) \quad (7) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge (v13_algstr_0 \\ & X0) \wedge (v3_group_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge \\ & (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v1_realset2 X0) \wedge (l6_algstr_0 \\ & X0)))) \Rightarrow (\forall X1. (m1_fvaluat1 X1 X0) \Rightarrow (v3_fvaluat1 \\ & X0) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (\neg v6_struct_0 X2) \wedge (v13_algstr_0 \\ & X2) \wedge (v36_algstr_0 X2) \wedge (v3_group_1 X2) \wedge (v5_group_1 X2) \wedge \\ & (v4_vectsp_1 X2) \wedge (v5_vectsp_1 X2) \wedge (v2_rlvect_1 X2) \wedge (v3_rlvect_1 \\ & X2) \wedge (v4_rlvect_1 X2) \wedge (l6_algstr_0 X2)))))) \Rightarrow ((X2 = k7_fvaluat1 \\ & X0 X1) \Leftrightarrow ((u1_struct_0 X2 = k6_fvaluat1 X0 X1) \wedge ((u1_algstr_0 X2 = \\ & k2_partfun1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (\\ & u1_struct_0 X0) (u1_algstr_0 X0) (k2_zfmisc_1 (k6_fvaluat1 X0 \\ & X1) (k6_fvaluat1 X0 X1))) \wedge ((u2_algstr_0 X2 = k2_partfun1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0) (u2_algstr_0 \\ & X0) (k2_zfmisc_1 (k6_fvaluat1 X0 X1) (k6_fvaluat1 X0 X1))) \wedge ((u2_struct_0 \\ & X2 = k4_struct_0 X0) \wedge (u3_struct_0 X2 = k5_struct_0 X0)))))) \quad (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_fvaluat1 X1 X0) \Rightarrow (k6_fvaluat1 X0 X1 = \text{ReplSep} (\text{toset} (\lambda X2 : \\ & \iota.m1_subset_1 X2 (u1_struct_0 X0)) (\lambda X2 : \iota.r1_xxreal_0 \\ & k6_numbers (k3_funct_2 (u1_struct_0 X0) k7_numbers X1 X2)) (\lambda X2 : \\ & \iota.X2))) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0. (&l6_algstr_0 X0) \Rightarrow (((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_vectsp_1 X0) \wedge (v1_realset2 X0))))))) \Rightarrow ((\neg v6_struct_0 X0) \wedge \\ &((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (v4_vectsp_1 \\ &X0)))))) \end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned} \forall X0. (&\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v3_group_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ &(v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v1_realset2 X0) \wedge (l6_algstr_0 \\ &X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ &(\forall X2. (m1_fvaluat1 X2 X0) \Rightarrow ((v3_fvaluat1 X0) \Rightarrow ((r1_xreal_0 \\ &k6_numbers (k3_funct_2 (u1_struct_0 X0) k7_numbers X2 X1)) \Leftrightarrow (m1_subset_1 \\ &X1 (u1_struct_0 (k7_fvaluat1 X0 X2)))))) \end{aligned}$$