

l69_mod_4

(TML7SwhhegW2MchZ9YqeAMUsSRM8FoubttW)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v13_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (((k1_algstr_0 X0 X1 X3 = k1_algstr_0 \\ & X0 X1 X4) \vee (k1_algstr_0 X0 X3 X1 = k1_algstr_0 X0 X4 X1)) \Rightarrow (X3 = X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (4)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (\\ & k3_funct_2 X0 X1 X2 X3) X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l2_algstr_0 X0) \Rightarrow ((v4_rlvect_1 X0) \Leftrightarrow (\forall X1. (\\ & m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_algstr_0 X0 X1 (k4_struct_0 \\ & X0) = X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_algstr_0 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_algstr_0 X1)) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow \\ & ((v13_vectsp_1 X2 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 X1) X2 (k1_algstr_0 X0 X3 X4) = k1_algstr_0 \\ & X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) (k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 X1) X2 X4)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1. ((\neg \\ & v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v13_vectsp_1 X2 X0 X1) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X1)))))) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 (k4_struct_0 \\ & X0) = k4_struct_0 X1))) \end{aligned}$$