

t11_reaset3

(TMN1y2HnZMPAi371XGmF9s85ESBRT5Y14Jy)

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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 $v33_algstr_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ 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 $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_realset3 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_vectsp_1 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ &X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ &X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ &X0)) \Rightarrow (k4_algstr_0 X0 (k5_algstr_0 X0 X1 X2) = k1_algstr_0 X0 X2 (\\ &k4_algstr_0 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow ((v1_funct_1 \\ &(k5_vectsp_1 X0)) \wedge ((v1_funct_2 (k5_vectsp_1 X0) (u1_struct_0 \\ &X0) (u1_struct_0 X0)) \wedge (m1_subset_1 (k5_vectsp_1 X0) (k1_zfmisc_1 \\ &(k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge \\ ((v4_rlvect_1 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow((v1_funct_1 \\ (k1_realset3 X0))\wedge((v1_funct_2 (k1_realset3 X0) (k2_zfmisc_1 \\ (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 \\ (k1_realset3 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) \\ X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_algstr_0 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge \\ ((v4_rlvect_1 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow(\forall X1. \\ ((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) \\ (u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\ (u1_struct_0 X0))))))\Rightarrow((X1 = k1_realset3 X0)\Leftrightarrow(\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0))\Rightarrow(k5_binop_1 (u1_struct_0 X0) X1 X2 X3 = k5_binop_1 (u1_struct_0 \\ X0) (u1_algstr_0 X0) X2 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ X0) (k5_vectsp_1 X0) X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k1_algstr_0 X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u1_algstr_0 X0) X1 X2))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(l2_algstr_0 X0))\Rightarrow(\forall X1. \\ ((v1_funct_1 X1)\wedge((v1_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ X0) (u1_struct_0 X0))))))\Rightarrow((X1 = k5_vectsp_1 X0)\Leftrightarrow(\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k3_funct_2 (u1_struct_0 X0) \\ (u1_struct_0 X0) X1 X2 = k4_algstr_0 X0 X2)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 \\ X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow (k5_binop_1 (u1_struct_0 X0) (k1_realset3 \\ X0) X1 X2 = k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) (k5_vectsp_1 \\ X0) (k5_binop_1 (u1_struct_0 X0) (k1_realset3 X0) X2 X1)))) \end{aligned}$$