

t25_vectsp_4
(TMciai4GXoNeY2aVnGrKQDFBS8u2Tz2CgrL)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ 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 $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $u1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ 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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (k5_relat_1 (k5_relat_1 X1 X0) X0 = k5_relat_1 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_struct_0 X0) \wedge (l1_vectsp_1 X1 X0)) \Rightarrow \\ & ((v1_funct_1 (u1_vectsp_1 X0 X1)) \wedge ((v1_funct_2 (u1_vectsp_1 \\ & X0 X1) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 \\ & X1)) \wedge (m1_subset_1 (u1_vectsp_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 \\ & X1)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 X0) \Rightarrow & ((v1_funct_1 (u1_algstr_0 X0)) \wedge \\ & ((v1_funct_2 (u1_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(l1_vectsp_1 X1 X0) \Rightarrow (l2_algstr_0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (k4_struct_0 X0 = u2_struct_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\ X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 \\ X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 \\ X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge \\ ((v13_algstr_0 X2) \wedge ((v8_vectsp_1 X2 X0) \wedge ((v9_vectsp_1 X2 X0) \wedge \\ ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 X2 X0) \wedge ((v2_rlvect_1 X2) \wedge \\ ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge (l1_vectsp_1 X2 X0)))))))))) \Rightarrow \\ ((m1_vectsp_4 X2 X0 X1) \Leftrightarrow ((r1_tarski (u1_struct_0 X2) (u1_struct_0 \\ X1)) \wedge ((k4_struct_0 X2 = k4_struct_0 X1) \wedge ((u1_algstr_0 X2 = k1_realset1 \\ (u1_algstr_0 X1) (u1_struct_0 X2)) \wedge (u1_vectsp_1 X0 X2 = k5_relat_1 \\ (u1_vectsp_1 X0 X1) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.k1_realset1 X0 X1 = k5_relat_1 X0 (k2_zfmisc_1 X1 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_relat_1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_relat_1\ X1)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_struct_0\ X0)\wedge(l1_vectsp_1\ X1\ X0))\Rightarrow \\ & ((v7_vectsp_1\ X1\ X0)\Rightarrow(X1 = g1_vectsp_1\ X0\ (u1_struct_0\ X1)\ (u1_algstr_0\ X1)\ (u2_struct_0\ X1)\ (u1_vectsp_1\ X0\ X1))) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v3_group_1\ X0)\wedge((v4_vectsp_1\ X0)\wedge((v5_vectsp_1\ X0)\wedge((v2_rlvect_1\ X0)\wedge \\ & ((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge(l6_algstr_0\ X0))))))))\Rightarrow \\ & (\forall X1.((\neg v2_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge((v7_vectsp_1\ X1\ X0)\wedge((v8_vectsp_1\ X1\ X0)\wedge((v9_vectsp_1\ X1\ X0)\wedge((v10_vectsp_1\ X1\ X0)\wedge((v11_vectsp_1\ X1\ X0)\wedge((v2_rlvect_1\ X1)\wedge((v3_rlvect_1\ X1)\wedge((v4_rlvect_1\ X1)\wedge(l1_vectsp_1\ X1\ X0))))))))))))\Rightarrow(\forall X2. \\ & ((\neg v2_struct_0\ X2)\wedge((v13_algstr_0\ X2)\wedge((v7_vectsp_1\ X2\ X0)\wedge((v8_vectsp_1\ X2\ X0)\wedge((v9_vectsp_1\ X2\ X0)\wedge((v10_vectsp_1\ X2\ X0)\wedge((v11_vectsp_1\ X2\ X0)\wedge((v2_rlvect_1\ X2)\wedge((v3_rlvect_1\ X2)\wedge((v4_rlvect_1\ X2)\wedge(l1_vectsp_1\ X2\ X0))))))))))))\Rightarrow(((m1_vectsp_4\ X2\ X0\ X1)\wedge(m1_vectsp_4\ X1\ X0\ X2))\Rightarrow(X2 = X1))) \end{aligned}$$