

t17_vectsp10 (TMNM- prkgf7dh4iYXKFrXRBhX2VPSNbXWKqn)

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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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. 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.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow ((X0 \in X1) \Rightarrow (X0 = k4_tarski (k1_xtuple_0 X0) (k2_xtuple_0 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X2 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k3_domain_1 X0 X1 X2 = k2_xtuple_0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X2 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_domain_1 X0 X1 X2 = k1_xtuple_0 X2) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X1))))\Rightarrow \\ & (k1_domain_1 X0 X1 X2 X3 = k4_tarski X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow (\neg v1_xboole_0 (k2_zfmisc_1 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(\forall X1.(l1_vectsp_1 X1 X0)\Rightarrow (l2_algstr_0 X1)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2_struct_0 \\ & X0)\wedge((v13_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge \\ & ((v5_vectsp_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 \\ & X0)\wedge(l6_algstr_0 X0))))))))\wedge(((\neg v2_struct_0 X1)\wedge((v13_algstr_0 \\ & X1)\wedge((v8_vectsp_1 X1 X0)\wedge((v9_vectsp_1 X1 X0)\wedge((v10_vectsp_1 \\ & X1 X0)\wedge((v11_vectsp_1 X1 X0)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 \\ & X1)\wedge((v4_rlvect_1 X1)\wedge(l1_vectsp_1 X1 X0))))))))\wedge((m1_subset_1 \\ & X2 (u1_struct_0 X1))\wedge((m1_vectsp_4 X3 X0 X1)\wedge(m1_vectsp_4 X4 X0 \\ & X1))))\Rightarrow(m1_subset_1 (k4_vectsp_5 X0 X1 X2 X3 X4) (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X2 (k2_zfmisc_1 X0 X1))))\Rightarrow(m1_subset_1 (k3_domain_1 X0 X1 X2) X1)$$

(14)

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X2 (k2_zfmisc_1 X0 X1))))\Rightarrow(m1_subset_1 (k2_domain_1 X0 X1 X2) X0)$$

(15)

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v3_group_1 X0)\wedge \\ & (v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))\Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v8_vectsp_1 X1 X0)\wedge \\ & ((v9_vectsp_1 X1 X0)\wedge((v10_vectsp_1 X1 X0)\wedge((v11_vectsp_1 X1 X0)\wedge(l1_vectsp_1 X1 X0))))))))))\Rightarrow(\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X1))\Rightarrow(\forall X3.(m1_vectsp_4 X3 X0 X1)\Rightarrow(\forall X4. \\ & (m1_vectsp_4 X4 X0 X1)\Rightarrow(\exists X5.(m1_subset_1 X5 (u1_struct_0 X1))\wedge(\exists X6.(m1_subset_1 X6 (u1_struct_0 X1))\wedge(k4_vectsp_5 \\ & X0 X1 X2 X3 X4 = k1_domain_1 (u1_struct_0 X1) (u1_struct_0 X1) X5 X6)))))) \end{aligned}$$