

t47_clvect_1

(TMY5ZGMwwPAxm3HyE5fcgEPVynonYy5iYxz)

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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 $v2_clvect.1 : \iota \Rightarrow o$ be given. Let $v3_clvect.1 : \iota \Rightarrow o$ be given. Let $v4_clvect.1 : \iota \Rightarrow o$ be given. Let $v5_clvect.1 : \iota \Rightarrow o$ be given. Let $l1_clvect.1 : \iota \Rightarrow o$ be given. Let $m1_clvect.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $k5_relat.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_clvect.1 : \iota \Rightarrow \iota$ be given. Let $v1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ 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 $l2_struct.0 : \iota \Rightarrow o$ be given. Let $k4_struct.0 : \iota \Rightarrow \iota$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((r1_tarski X0 X1) \wedge \\ & (r1_tarski X2 X3)) \Rightarrow (r1_tarski (k2_zfmisc.1 X0 X2) (k2_zfmisc.1 \\ & X1 X3)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (r1_tarski X0 X1) \Rightarrow ((r1_tarski \\ & (k2_zfmisc.1 X0 X2) (k2_zfmisc.1 X1 X2)) \wedge (r1_tarski (k2_zfmisc.1 \\ & X2 X0) (k2_zfmisc.1 X2 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat.1 X2) \wedge (v1_funct.1 \\ & X2)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow ((k5_relat.1 (k5_relat.1 X2 X0) X1 = k5_relat.1 \\ & X2 X0) \wedge (k5_relat.1 (k5_relat.1 X2 X1) X0 = k5_relat.1 X2 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct.1 X2) \wedge \\ & (m1_subset.1 X2 (k1_zfmisc.1 (k2_zfmisc.1 X0 X1)))) \Rightarrow (k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat.1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_clvect_1 X0) \Rightarrow & ((v1_funct_1 (u1_clvect_1 X0)) \wedge \\ & ((v1_funct_2 (u1_clvect_1 X0) (k2_zfmisc_1 k2_numbers (u1_struct_0 \\ & X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_clvect_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers (u1_struct_0 X0)) (u1_struct_0 \\ & X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 X0) \Rightarrow & ((v1_funct_1 (u1_algstr_0 X0)) \wedge \\ & ((v1_funct_2 (u1_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge & ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_clvect_1 X1 X0) \Rightarrow & ((\neg v2_struct_0 \\ & X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ & ((v4_rlvect_1 X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 \\ & X1) \wedge ((v5_clvect_1 X1) \wedge (l1_clvect_1 X1)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge & ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge & ((v13_algstr_0 \\ & X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ & ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 \\ & X1) \wedge (l1_clvect_1 X1)))))))))) \Rightarrow ((m1_clvect_1 X1 X0) \Leftrightarrow & ((r1_tarSKI \\ & (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((k4_struct_0 X1 = k4_struct_0 \\ & X0) \wedge ((u1_algstr_0 X1 = k1_realset1 (u1_algstr_0 X0) (u1_struct_0 \\ & X1)) \wedge (u1_clvect_1 X1 = k2_partfun1 (k2_zfmisc_1 k2_numbers (u1_struct_0 \\ & X0)) (u1_struct_0 X0) (u1_clvect_1 X0) (k2_zfmisc_1 k2_numbers \\ & (u1_struct_0 X1)))))) \end{aligned} \quad (10)$$

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.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge (v4_clvect_1 X0) \wedge (v5_clvect_1 X0) \wedge (l1_clvect_1 X0)))))) \Rightarrow (\forall X1.(m1_clvect_1 X1 X0) \Rightarrow (\forall X2.(m1_clvect_1 X2 X0) \Rightarrow ((r1_tarski (u1_struct_0 X1) (u1_struct_0 X2)) \Rightarrow (m1_clvect_1 X1 X2)))) \end{aligned}$$