

t25_rlsb_1 (TMP-
wKgLgdH6JW2qSiRXNzZPhzWo6sXoZTdv)

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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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_rlsub_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $l2_struct_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X3 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r2_relset_1 \\ & X1 X0 (k5_relset_1 X1 X0 X3 X2) X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k5_relset_1 X0 X1 X2 X3 = k5_relat_1 \\ & X2 X3) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_rlvect_1 X0) \Rightarrow & ((v1_funct_1 (u1_rlvect_1 X0)) \wedge \\ & ((v1_funct_2 (u1_rlvect_1 X0) (k2_zfmisc_1 k1_numbers (u1_struct_0 \\ & X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_rlvect_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 X0)) (u1_struct_0 \\ & X0)))))) \end{aligned} \quad (5)$$

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.

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

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow & (m1_subset_1 (k5_relset_1 \\ & X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\ X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 \\ X1) \wedge (l1_rlvect_1 X1)))))))))) \Rightarrow & ((m1_rlsub_1 X1 X0) \Leftrightarrow ((r1_tarski \\ (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((k4_struct_0 X1 = k4_struct_0 \\ X0) \wedge ((u1_algstr_0 X1 = k1_realset1 (u1_algstr_0 X0) (u1_struct_0 \\ X1)) \wedge (u1_rlvect_1 X1 = k5_relat_1 (u1_rlvect_1 X0) (k2_zfmisc_1 \\ k1_numbers (u1_struct_0 X1)))))) \end{aligned} \quad (10)$$

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

$$\forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))) \Rightarrow (m1_rlsub_1 X0 X0)$$