

t33_rlvect_5

(TMSjsyhMwo9Vfh8hqj295rDgqpmxA8aTYAC)

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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 $v1_rlvect.5 : \iota \Rightarrow o$ be given. Let $l1_rlvect.1 : \iota \Rightarrow o$ be given. Let $k1_rlvect.5 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k4_struct.0 : \iota \Rightarrow \iota$ be given. Let $k2_rlsub.1 : \iota \Rightarrow \iota$ be given. Let $k1_rlvect.3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_rlvect.3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k1_card.1 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $l1_struct.0 : \iota \Rightarrow o$ be given. Let $m1_rlvect.3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_struct.0 : \iota \Rightarrow o$ be given. Let $l2_algstr.0 : \iota \Rightarrow o$ be given. Let $l1_algstr.0 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $g1_rlvect.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_struct.0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr.0 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect.1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((v13_algstr.0 X0) \wedge ((v2_rlvect.1 \\ & X0) \wedge ((v3_rlvect.1 X0) \wedge ((v4_rlvect.1 X0) \wedge ((v5_rlvect.1 X0) \wedge \\ & ((v6_rlvect.1 X0) \wedge ((v7_rlvect.1 X0) \wedge ((v8_rlvect.1 X0) \wedge (l1_rlvect.1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset.1 X1 (u1_struct.0 X0)) \Rightarrow \\ & ((v1_rlvect.3 (k6_domain.1 (u1_struct.0 X0) X1) X0) \Leftrightarrow (X1 \neq k4_struct.0 \\ & X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 X2))) \Rightarrow (m1_subset.1 X0 X2) \tag{2}$$

Assume the following.

$$\forall X0.(k1_card.1 X0 = np_1) \Leftrightarrow (\exists X1.X0 = k1_tarski X1) \tag{3}$$

Assume the following.

$$\forall X0.k1_card.1 (k1_tarski X0) = np_1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(\exists X1.m1_rlvect_3 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(\forall X1.(m1_rlvect_3 X1 X0)\Rightarrow(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(m2_subset_1 (k1_rlvect_5 X0) k1_numbers k5_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ &X0)))))))))) \Rightarrow (k2_rlsub_1 X0 = g1_rlvect_1 (u1_struct_0 X0) (u2_struct_0 \\ &X0) (u1_algstr_0 X0) (u1_rlvect_1 X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ &X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ &X0)) \Rightarrow ((m1_rlvect_3 X1 X0) \Leftrightarrow ((v1_rlvect_3 X1 X0) \wedge (k1_rlvect_3 \\ &X0 X1 = g1_rlvect_1 (u1_struct_0 X0) (u2_struct_0 X0) (u1_algstr_0 \\ &X0) (u1_rlvect_1 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ &X0)))))))))) \Rightarrow ((v1_rlvect_5 X0) \Rightarrow (\forall X1. (m2_subset_1 X1 \\ &k1_numbers k5_numbers) \Rightarrow ((X1 = k1_rlvect_5 X0) \Leftrightarrow (\forall X2. (m1_rlvect_3 \\ &X2 X0) \Rightarrow (X1 = k1_card_1 X2)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v1_rlvect_5 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((k1_rlvect_5 X0 = np_1) \Leftrightarrow (\exists X1. \\ &(m1_subset_1 X1 (u1_struct_0 X0)) \wedge ((X1 \neq k4_struct_0 X0) \wedge (k2_rlsub_1 \\ &X0 = k1_rlvect_3 X0 (k6_domain_1 (u1_struct_0 X0) X1)))))) \end{aligned}$$