

t1_rlvect_5

(TMd7Sk3SRput45GUBy4BbWSpjUaeZ2Fhhd4)

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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 $m1_rlvect_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_rlvect_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_rlvect_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_rlvect_2 : \iota \Rightarrow \iota$ be given. Let $m2_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_rlvect_2 X1 X0) \Rightarrow (r1_rlvect_2 X0 \\ & (k10_rlvect_2 X0 X1 X1) (k4_rlvect_2 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2. (m1_rlvect_2 X2 X0) \Rightarrow (\forall X3. (m1_rlvect_2 \\ & X3 X0) \Rightarrow (((m2_rlvect_2 X2 X0 X1) \wedge (m2_rlvect_2 X3 X0 X1)) \Rightarrow (m2_rlvect_2 \\ & (k10_rlvect_2 X0 X2 X3) X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.(m1_rlvect_2 X1 X0) \Rightarrow (r1_rlvect_2 X0 \\ (k9_rlvect_2 X0 (k9_rlvect_2 X0 X1) X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.(m1_rlvect_2 X1 X0) \Rightarrow (\forall X2.(m1_rlvect_2 \\ X2 X0) \Rightarrow ((r1_rlvect_2 X0 (k7_rlvect_2 X0 X1 X2) (k4_rlvect_2 X0)) \Rightarrow \\ (r1_rlvect_2 X0 X2 (k9_rlvect_2 X0 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.(m1_rlvect_2 X1 X0) \Rightarrow (\forall X2.(m1_rlvect_2 \\ X2 X0) \Rightarrow (k6_rlvect_2 X0 (k10_rlvect_2 X0 X1 X2) = k5_algstr_0 X0 (\\ k6_rlvect_2 X0 X1) (k6_rlvect_2 X0 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l2_algstr_0 \\ X0)) \wedge ((m1_rlvect_2 X1 X0) \wedge (m1_rlvect_2 X2 X0))) \Rightarrow ((r1_rlvect_2 \\ X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (k6_rlvect_2 X0 (k4_rlvect_2 X0) = k4_struct_0 X0) \end{aligned} \quad (7)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\ ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 \\ X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge \\ (l1_rlvect_1 X0)))))))))) \wedge (m1_rlvect_2 X1 X0)) \Rightarrow (m1_rlvect_2 \\ (k9_rlvect_2 X0 X1) X0) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (m1_rlvect_2 (k4_rlvect_2 X0) X0) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))))))) \wedge ((m1_rlvect_2 X1 X0) \wedge (m1_rlvect_2 X2 X0))) \Rightarrow (m1_rlvect_2 (k10_rlvect_2 X0 X1 X2) X0) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_rlvect_2 X2 X0) \Rightarrow ((m2_rlvect_2 X2 X0 X1) \Leftrightarrow (r1_tarski (k3_rlvect_2 X0 X2) X1)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (\forall X1. (m1_rlvect_2 X1 X0) \Rightarrow ((X1 = k4_rlvect_2 X0) \Leftrightarrow (k3_rlvect_2 X0 X1 = k1_xboole_0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v1_rlvect_3 X1 X0) \Leftrightarrow (\forall X2. (m2_rlvect_2 X2 X0 X1) \Rightarrow ((k6_rlvect_2 X0 X2 = k4_struct_0 X0) \Rightarrow (k3_rlvect_2 X0 X2 = k1_xboole_0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (\forall X1. (m1_rlvect_2 X1 X0) \Rightarrow (\forall X2. (m1_rlvect_2 X2 X0) \Rightarrow (k10_rlvect_2 X0 X1 X2 = k7_rlvect_2 X0 X1 (k9_rlvect_2 X0 X2)))) \end{aligned} \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))) \Rightarrow (\forall X1.(m1_rlvect_2 X1 X0) \Rightarrow (\forall X2.(m1_rlvect_2 \\ & X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X0)) \Rightarrow (((v1_rlvect_3 X3 X0) \wedge (r1_tarski (k3_rlvect_2 X0 X1) X3) \wedge \\ & ((r1_tarski (k3_rlvect_2 X0 X2) X3) \wedge (k6_rlvect_2 X0 X1 = k6_rlvect_2 \\ & X0 X2)))) \Rightarrow (r1_rlvect_2 X0 X1 X2)))))) \end{aligned}$$