

t14_rltopsp1 (TMJhsEgzF- pFff2FNq86ADrVNTaUEswjZYUzU)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_convex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (\\ (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\ ((v8_rlvect_1 X1) \wedge (l1_rlvect_1 X1)))))))))) \Rightarrow (\forall X2. (m1_subset_1 \\ X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\ X1)) \Rightarrow ((k1_rlvect_1 X1 X2 X0 = k1_rlvect_1 X1 X3 X0) \Rightarrow ((X0 = k6_numbers) \vee \\ (X2 = X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (\\ (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\ ((v8_rlvect_1 X1) \wedge (l1_rlvect_1 X1)))))))))) \Rightarrow (\forall X2. (m1_subset_1 \\ X2 (u1_struct_0 X1)) \Rightarrow (((X0 = k6_numbers) \vee (X2 = k4_struct_0 X1)) \Rightarrow \\ (k1_rlvect_1 X1 X2 X0 = k4_struct_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 \ X0)\wedge(l1_rlvect_1 \\ X0))\wedge((m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0)))\wedge(m1_subset_1 \\ X2 \ k1_numbers)))\Rightarrow(m1_subset_1 \ (k1_convex1 \ X0 \ X1 \ X2) \ (k1_zfmisc_1 \\ (u1_struct_0 \ X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 \ X0)\wedge(l1_rlvect_1 \ X0))\Rightarrow(\forall X1. \\ (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0)))\Rightarrow(\forall X2. \\ (m1_subset_1 \ X2 \ k1_numbers)\Rightarrow(k1_convex1 \ X0 \ X1 \ X2 = ReplSep \ (toset \\ (\lambda X3 : \iota.m1_subset_1 \ X3 \ (u1_struct_0 \ X0)) \ (\lambda X3 : \iota.X3 \in \\ X1) \ (\lambda X3 : \iota.k1_rlvect_1 \ X0 \ X3 \ X2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers)\Rightarrow(v1_xreal_0 \ X0) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 \ X0)\wedge((v13_algstr_0 \ X0)\wedge((v2_rlvect_1 \\ X0)\wedge((v3_rlvect_1 \ X0)\wedge((v4_rlvect_1 \ X0)\wedge((v5_rlvect_1 \ X0)\wedge \\ ((v6_rlvect_1 \ X0)\wedge((v7_rlvect_1 \ X0)\wedge((v8_rlvect_1 \ X0)\wedge(l1_rlvect_1 \\ X0))))))))))\Rightarrow(\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \\ X0)))\Rightarrow(\forall X2.((\neg v1_xboole_0 \ X2)\wedge(m1_subset_1 \ X2 \ k1_numbers))\Rightarrow \\ ((k4_struct_0 \ X0 \in k1_convex1 \ X0 \ X1 \ X2)\Rightarrow(k4_struct_0 \ X0 \in X1)))) \end{aligned}$$