

t31_rusub_3

(TMZxN3xd1Zryzk74TjtvkstUBFkMdd5FR1i)

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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 $v2_bhsp_1 : \iota \Rightarrow o$ be given. Let $l1_bhsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_rusub_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rusub_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_rusub_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_bhsp_1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
 & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
 & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_rusub_1 X1 X0) \Rightarrow \\
 & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (X3 \in \\
 & k3_rusub_1 X0 X2 X1) \Leftrightarrow (\exists X4. (m1_subset_1 X4 (u1_struct_0 \\
 & X0)) \wedge ((r1_struct_0 X1 X4) \wedge (X3 = k3_rlvect_1 X0 X2 X4))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
 & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
 & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X2. (r1_struct_0 (k1_rusub_3 X0 (k6_domain_1 (u1_struct_0 \\
 & X0) X1)) X2) \Leftrightarrow (\exists X3. (m1_subset_1 X3 k1_numbers) \wedge (X2 = k1_rlvect_1 \\
 & X0 X1 X3))))
 \end{aligned} \tag{2}$$

Assume the following.

$$v3_membered\ k1_numbers \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_struct_0\ X0))\Rightarrow(\neg v1_xboole_0\ (u1_struct_0\ X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l2_struct_0\ X0)\Rightarrow(l1_struct_0\ X0) \quad (5)$$

Assume the following.

$$\forall X0.(l2_algstr_0\ X0)\Rightarrow((l2_struct_0\ X0)\wedge(l1_algstr_0\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_rlvect_1\ X0)\Rightarrow(l2_algstr_0\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1_bhsp_1\ X0)\Rightarrow(l1_rlvect_1\ X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge(m1_subset_1\ X1\ X0))\Rightarrow(m1_subset_1\ (k6_domain_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge \\ & ((v2_rlvect_1\ X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge((v5_rlvect_1 \\ & X0)\wedge((v6_rlvect_1\ X0)\wedge((v7_rlvect_1\ X0)\wedge((v8_rlvect_1\ X0)\wedge \\ & ((v2_bhsp_1\ X0)\wedge(l1_bhsp_1\ X0))))))))))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0)))\Rightarrow((v1_bhsp_1\ (k1_rusub_3\ X0\ X1))\wedge(m1_rusub_1 \\ & (k1_rusub_3\ X0\ X1)\ X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge(l1_rlvect_1\ X0))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(v1_xreal_0\ X2)))\Rightarrow(m1_subset_1\ (k1_rlvect_1\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (v2_bhsp_1 \\ & X0) \wedge (l1_bhsp_1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (X3 \in k3_rusub_1 X0 X1 (k1_rusub_3 X0 (k6_domain_1 (u1_struct_0 \\ & X0) X2))) \Leftrightarrow (\exists X4. (m1_subset_1 X4 k1_numbers) \wedge (X3 = k3_rlvect_1 \\ & X0 X1 (k1_rlvect_1 X0 X2 X4)))))) \end{aligned}$$