

t45_rusub_1 (TMR-
JHj3zvYMgnbRco1r6nqaBYhKbixbRRYH)

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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 $m1_rusub_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rusub_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (k4_algstr_0 X0 (k4_algstr_0 X0 X1) = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.(m1_rusub_1 X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_struct_0 \\ X1 X2) \Rightarrow (r1_struct_0 X1 (k4_algstr_0 X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.(m1_rusub_1 X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_struct_0 \\ X1 X2) \Leftrightarrow (k3_rusub_1 X0 X2 X1 = u1_struct_0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (4)$$

Assume the following.

$$\forall X0.(l1_bhspl\ 1\ X0)\Rightarrow(l1_rlvect_1\ X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0\ X0)\wedge(m1_subset_1\ X1\ (u1_struct_0\ X0)))\Rightarrow(m1_subset_1\ (k4_algstr_0\ X0\ X1)\ (u1_struct_0\ X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v2_rlvect_1 \\ &X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge((v5_rlvect_1\ X0)\wedge \\ &((v6_rlvect_1\ X0)\wedge((v7_rlvect_1\ X0)\wedge((v8_rlvect_1\ X0)\wedge((v2_bhspl\ 1 \\ &X0)\wedge(l1_bhspl\ 1\ X0))))))))))\Rightarrow(\forall X1.(m1_rusub_1\ X1\ X0)\Rightarrow \\ &(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow((r1_struct_0 \\ &X1\ X2)\Leftrightarrow(k3_rusub_1\ X0\ (k4_algstr_0\ X0\ X2)\ X1 = u1_struct_0\ X1)))) \end{aligned}$$