t39_rusub_2 (TMJ9WJ7pGwxUizoV3YXytYEGVK8pyopRXPF)

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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 $r1\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_rusub\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_rusub\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ 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. Let $u1\_bhsp\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_bhsp\_1 : \iota \Rightarrow o$ be given. Let $m1\_rusub\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v2\_bhsp\_1\ X0) \wedge (l1\_bhsp\_1\ X0))))))))) \Rightarrow ((k2\_rusub\_2\ X0\ (k1\_rusub\_1\ X0)\ (k2\_rusub\_1\ X0) = k1\_rusub\_1\ X0) \wedge (k2\_rusub\_2\ X0\ (k2\_rusub\_1\ X0)\ (k1\_rusub\_1\ X0) = k1\_rusub\_1\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v2\_bhsp\_1\ X0) \wedge (l1\_bhsp\_1\ X0))))))))) \Rightarrow ((k1\_rusub\_2\ X0\ (k1\_rusub\_1\ X0)\ (k2\_rusub\_1\ X0) = g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0)) \wedge (k1\_rusub\_2\ X0\ (k2\_rusub\_1\ X0)\ (k1\_rusub\_1\ X0) = g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow((v1\_bhsp\_1\ (k2\_rusub\_1\ X0))\wedge(m1\_rusub\_1\ (k2\_rusub\_1\ X0)\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow((v1\_bhsp\_1\ (k1\_rusub\_1\ X0))\wedge(m1\_rusub\_1\ (k1\_rusub\_1\ X0)\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rusub\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_rusub\_1\ X2\ X0)\Rightarrow((r1\_rusub\_2\ X0\ X1\ X2)\Leftrightarrow((g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0) = k1\_rusub\_2\ X0\ X1\ X2)\wedge(k2\_rusub\_2\ X0\ X1\ X2 = k1\_rusub\_1\ X0))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow((r1\_rusub\_2\ X0\ (k1\_rusub\_1\ X0)\ (k2\_rusub\_1\ X0))\wedge(r1\_rusub\_2\ X0\ (k2\_rusub\_1\ X0)\ (k1\_rusub\_1\ X0)))$$