t57_rlsub_2 (TMYmPQQKyMcUHxQAsdVFVBf-PQJfBMNoKNDG)

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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 $g3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_rlsub\_2 : \iota \Rightarrow \iota$ be given. Let $k5\_rlsub\_2 : \iota \Rightarrow \iota$ be given. Let $k6\_rlsub\_2 : \iota \Rightarrow \iota$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $v15\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $v14\_lattices : \iota \Rightarrow o$ be given. Let $v13\_lattices : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v3\_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (v14\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (v13\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge (((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))) \Rightarrow ((\neg v2\_struct\_0\ (g3\_lattices\ X0\ X1\ X2)) \wedge (v3\_lattices\ (g3\_lattices\ X0\ X1\ X2))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow((v3\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0)))\wedge(v10\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0)))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\neg v1\_xboole\_0\ (k3\_rlsub\_2\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow((v1\_funct\_1\ (k6\_rlsub\_2\ X0))\wedge((v1\_funct\_2\ (k6\_rlsub\_2\ X0)\ (k2\_zfmisc\_1\ (k3\_rlsub\_2\ X0)\ (k3\_rlsub\_2\ X0))\ (k3\_rlsub\_2\ X0))\wedge(m1\_subset\_1\ (k6\_rlsub\_2\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_rlsub\_2\ X0)\ (k3\_rlsub\_2\ X0))\ (k3\_rlsub\_2\ X0)))))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow((v1\_funct\_1\ (k5\_rlsub\_2\ X0))\wedge((v1\_funct\_2\ (k5\_rlsub\_2\ X0)\ (k2\_zfmisc\_1\ (k3\_rlsub\_2\ X0)\ (k3\_rlsub\_2\ X0))\ (k3\_rlsub\_2\ X0))\wedge(m1\_subset\_1\ (k5\_rlsub\_2\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_rlsub\_2\ X0)\ (k3\_rlsub\_2\ X0))\ (k3\_rlsub\_2\ X0)))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow((v3\_lattices\ (g3\_lattices\ X0\ X1\ X2))\wedge(l3\_lattices\ (g3\_lattices\ X0\ X1\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v13\_lattices\ X0)\wedge(v14\_lattices\ X0)))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge(v15\_lattices\ X0))) \tag{9}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow((\neg v2\_struct\_0\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0)))\wedge((v10\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0)))\wedge((v15\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0)))\wedge(l3\_lattices\ (g3\_lattices\ (k3\_rlsub\_2\ X0)\ (k5\_rlsub\_2\ X0)\ (k6\_rlsub\_2\ X0))))))$$