l50_rusub_2 (TMKT-fydR28QCDKkUYEMy6LRr9K8B4CfS54B)

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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 $k1\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_bhsp\_1 : \iota \Rightarrow o$ 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 $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v2\_bhsp\_1\ X0) \wedge (l1\_bhsp\_1\ X0))))))))))) \Rightarrow (\forall X1.(m1\_rusub\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_rusub\_1\ X2\ X0) \Rightarrow (\forall X3.(r1\_struct\_0\ (k1\_rusub\_2\ X0\ X1\ X2)\ X3) \Leftrightarrow (\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \wedge (\exists X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \wedge ((r1\_struct\_0\ X1\ X4) \wedge ((r1\_struct\_0\ X2\ X5) \wedge (X3 = k3\_rlvect\_1\ X0\ X4\ X5)))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (r1\_struct\_0\ X0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.((v1\_bhsp\_1\ X1)\wedge(m1\_rusub\_1\ X1\ X0))\Rightarrow((\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(r1\_struct\_0\ X1\ X2))\Rightarrow(X1 = g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers))))))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8.\forall X9.(g1\_bhsp\_1\ X0\ X1\ X2\ X3\ X4 = g1\_bhsp\_1\ X5\ X6\ X7\ X8\ X9)\Rightarrow((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9))))) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (u2\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0)\Rightarrow((v1\_funct\_1\ (u1\_rlvect\_1\ X0))\wedge((v1\_funct\_2\ (u1\_rlvect\_1\ X0)\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_rlvect\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{6}$$

Assume the following.

$$\forall X0.(l1\_bhsp\_1\ X0)\Rightarrow((v1\_funct\_1\ (u1\_bhsp\_1\ X0))\wedge((v1\_funct\_2\ (u1\_bhsp\_1\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ k1\_numbers)\wedge(m1\_subset\_1\ (u1\_bhsp\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ k1\_numbers))))) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rusub\_1\ X1\ X0)\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v5\_rlvect\_1\ X1)\wedge((v6\_rlvect\_1\ X1)\wedge((v7\_rlvect\_1\ X1)\wedge((v8\_rlvect\_1\ X1)\wedge((v2\_bhsp\_1\ X1)\wedge(l1\_bhsp\_1\ X1)))))))))))) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_bhsp\_1\ X0)\Rightarrow(l1\_rlvect\_1\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\wedge((m1\_rusub\_1\ X1\ X0)\wedge(m1\_rusub\_1\ X2\ X0)))\Rightarrow((v1\_bhsp\_1\ (k1\_rusub\_2\ X0\ X1\ X2))\wedge(m1\_rusub\_1\ (k1\_rusub\_2\ X0\ X1\ X2)\ X0)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers))))))))\Rightarrow((v1\_bhsp\_1\ (g1\_bhsp\_1\ X0\ X1\ X2\ X3\ X4))\wedge(l1\_bhsp\_1\ (g1\_bhsp\_1\ X0\ X1\ X2\ X3\ X4))) \tag{15}$$

Assume the following.

$$\forall X0.(l1\_bhsp\_1\ X0)\Rightarrow((v1\_bhsp\_1\ X0)\Rightarrow(X0 = g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0))) \tag{16}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rusub\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_rusub\_1\ X2\ X0)\Rightarrow((k1\_rusub\_2\ X0\ X1\ X2 = g1\_bhsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_bhsp\_1\ X0))\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\wedge(\exists X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\wedge((r1\_struct\_0\ X1\ X4)\wedge((r1\_struct\_0\ X2\ X5)\wedge(X3 = k3\_rlvect\_1\ X0\ X4\ X5)))))))))$$