t8_lp_space (TMKyzT3WGDMr4a5R6S7AW1MTc7LEXdnhLso)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_1 : \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $g1\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_lp\_space : \iota \Rightarrow \iota$ be given. Let $k10\_rsspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_rsspace : \iota$ be given. Let $k8\_rsspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_rsspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_lp\_space : \iota \Rightarrow \iota$ 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 $m1\_rlsub\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_normsp\_1 : \iota \Rightarrow o$ 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 $v1\_funct\_1 : \iota \Rightarrow o$ 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 $v1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_normsp\_1 : \iota \Rightarrow o$ be given. Let $u1\_normsp\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow ((r1\_xxreal\_0\ np\_\_1\ X0) \Rightarrow (m1\_rlsub\_1\ (g1\_rlvect\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0)))\ k7\_rsspace)) \tag{1}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8.\forall X9.(g1\_normsp\_1\ X0\ X1\ X2\ X3\ X4 = g1\_normsp\_1\ X5\ X6\ X7\ X8\ X9)\Rightarrow((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9))))) \tag{3}$$

Assume the following.

$$(v13\_algstr\_0\ k7\_rsspace)\wedge((v2\_rlvect\_1\ k7\_rsspace)\wedge((v3\_rlvect\_1\ k7\_rsspace)\wedge((v4\_rlvect\_1\ k7\_rsspace)\wedge((v5\_rlvect\_1\ k7\_rsspace)\wedge((v6\_rlvect\_1\ k7\_rsspace)\wedge((v7\_rlvect\_1\ k7\_rsspace)\wedge(v8\_rlvect\_1\ k7\_rsspace))))))) \tag{4}$$

Assume the following.

$$(\neg v2\_struct\_0\ k7\_rsspace)\wedge(v1\_rlvect\_1\ k7\_rsspace) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rlsub\_1\ X1\ X0)\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v5\_rlvect\_1\ X1)\wedge((v6\_rlvect\_1\ X1)\wedge((v7\_rlvect\_1\ X1)\wedge((v8\_rlvect\_1\ X1)\wedge(l1\_rlvect\_1\ X1)))))))))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0)))))))))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v1\_funct\_1\ (k9\_rsspace\ X0\ X1))\wedge((v1\_funct\_2\ (k9\_rsspace\ X0\ X1)\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1)\wedge(m1\_subset\_1\ (k9\_rsspace\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0)))))))))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v1\_funct\_1\ (k8\_rsspace\ X0\ X1))\wedge((v1\_funct\_2\ (k8\_rsspace\ X0\ X1)\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ (k8\_rsspace\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \tag{8}$$

Assume the following.

$$l1\_rlvect\_1\ k7\_rsspace \tag{9}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((v1\_funct\_1\ (k3\_lp\_space\ X0))\wedge((v1\_funct\_2\ (k3\_lp\_space\ X0)\ (k2\_lp\_space\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ (k3\_lp\_space\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_lp\_space\ X0)\ k1\_numbers))))) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((\neg v1\_xboole\_0\ (k2\_lp\_space\ X0))\wedge(m1\_subset\_1\ (k2\_lp\_space\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ k7\_rsspace)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k10\_rsspace\ X0\ X1)\ X1) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))))\Rightarrow((v1\_normsp\_1\ (g1\_normsp\_1\ X0\ X1\ X2\ X3\ X4))\wedge(l1\_normsp\_1\ (g1\_normsp\_1\ X0\ X1\ X2\ X3\ X4))) \tag{13}$$

Assume the following.

$$\forall X0.(l1\_normsp\_1\ X0)\Rightarrow((v1\_normsp\_1\ X0)\Rightarrow(X0 = g1\_normsp\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u1\_normsp\_0\ X0))) \tag{14}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((r1\_xxreal\_0\ np\_\_1\ X0)\Rightarrow((\neg v2\_struct\_0\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v13\_algstr\_0\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v2\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v3\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v4\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v5\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v6\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v7\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge((v8\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0)))\wedge(l1\_rlvect\_1\ (g1\_normsp\_1\ (k2\_lp\_space\ X0)\ (k10\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k8\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k9\_rsspace\ k7\_rsspace\ (k2\_lp\_space\ X0))\ (k3\_lp\_space\ X0))))))))))))$$