

t11\_sppol\_1  
(TMHndjvC7j6xSzYGfEQ1seqYeHuK86wzdQi)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_sppol\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. 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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (\forall X2.( \\
& m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (\neg(r1\_tarski (k1\_rltopsp1 (k15\_euclid \\
& X0) X3 X4) (k1\_rltopsp1 (k15\_euclid X0) X1 X2)) \wedge ((X1 \in k1\_rltopsp1 \\
& (k15\_euclid X0) X3 X4) \wedge ((X1 \neq X3) \wedge (X1 \neq X4))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (X1 \in k1\_rltopsp1 \\
& X0 X1 X2)))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (3)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (5)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(((v2\_pre\_topc (k15\_euclid X0))\wedge((v13\_algstr\_0 (k15\_euclid X0))\wedge((v2\_rlvect\_1 (k15\_euclid X0))\wedge((v3\_rlvect\_1 (k15\_euclid X0))\wedge((v4\_rlvect\_1 (k15\_euclid X0))\wedge((v5\_rlvect\_1 (k15\_euclid X0))\wedge((v6\_rlvect\_1 (k15\_euclid X0))\wedge((v7\_rlvect\_1 (k15\_euclid X0))\wedge((v8\_rlvect\_1 (k15\_euclid X0))\wedge(v5\_rltopsp1 (k15\_euclid X0)))))))))))))) \quad (7)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow((\neg v2\_struct\_0 (k15\_euclid X0))\wedge(v5\_rltopsp1 (k15\_euclid X0))) \quad (8)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (9)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0)\Rightarrow((l1\_rlvect\_1 X0)\wedge(l1\_pre\_topc X0)) \quad (10)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge(l1\_rlvect\_1 X0))))))))))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(m1\_subset\_1 (k1\_rltopsp1 X0 X1 X2) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v5\_rltopsp1\ (k15\_euclid\ X0))\wedge (l1\_rltopsp1\ (k15\_euclid\ X0))) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1. \\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ X0)))\Rightarrow(\forall X2.( \\ m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ X0))))\Rightarrow \\ ((r1\_sppol\_1\ X0\ X1\ X2)\Leftrightarrow((X1 \in X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ ( \\ u1\_struct\_0\ (k15\_euclid\ X0))))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0 \\ (k15\_euclid\ X0))))\Rightarrow(\neg(X1 \in k1\_rltopsp1\ (k15\_euclid\ X0)\ X3\ X4)\wedge( \\ r1\_tarski\ (k1\_rltopsp1\ (k15\_euclid\ X0)\ X3\ X4)\ X2)\wedge((X1\neq X3)\wedge( \\ X1\neq X4)))))))))) \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow (v7\_ordinal1\ X1)) \quad (15)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1. \\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ X0)))\Rightarrow(\forall X2.( \\ m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0)))\Rightarrow(r1\_sppol\_1\ X0 \\ X1\ (k1\_rltopsp1\ (k15\_euclid\ X0)\ X1\ X2)))) \end{aligned}$$