

t46\_sppol\_2  
(TMJUdwpwHYo9jifVrQewJ1ZFH4jSu9r5P8c)

October 27, 2020

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  $np\_2 : \iota$  be given. Let  $v4\_topreal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple.0 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq.4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_finseq.5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $k3\_finseq.1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $v1\_funct.1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq.1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal.0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal.0 : \iota \Rightarrow o$  be given. 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  $k2\_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_funct.1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xreal.0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole.0 X0) \Rightarrow (\forall X1. (m1\_subset.1 X1 X0) \Rightarrow \\ & (\forall X2. (m2\_finseq.1 X2 X0) \Rightarrow ((X1 \in k10\_xtuple.0 X2) \Rightarrow (k3\_finseq.1 \\ & (k1\_finseq.5 X0 X2 X1) = k4\_finseq.4 X2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat.1 X0) \wedge ((v1\_funct.1 X0) \wedge (v1\_finseq.1 X0))) \Rightarrow \\ & (\forall X1. (X1 \in k10\_xtuple.0 X0) \Rightarrow ((r1\_xxreal.0 np\_1 (k4\_finseq.4 \\ & X0 X1)) \wedge (r1\_xxreal.0 (k4\_finseq.4 X0 X1) (k3\_finseq.1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1\_xxreal.0 X0) \Rightarrow (\forall X1. (v1\_xxreal.0 X1) \Rightarrow (( \\ & (r1\_xxreal.0 X0 X1) \wedge (r1\_xxreal.0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow (( \\ & \neg r1\_xxreal.0 (k1\_nat.1 X1 np\_1) X0) \Leftrightarrow (r1\_xxreal.0 X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_1 \ np\_1 = np\_2 \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Leftrightarrow (m1\_finseq\_1 \ X1 \ X0) \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (m1\_subset\_1 \ X1 \ k5\_numbers)) \Rightarrow \\ & (k1\_nat\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3\_topreal1 \ X0) \wedge (m1\_finseq\_1 \ X0 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)))) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)))) \Rightarrow (v3\_topreal1 \ (k1\_finseq\_5 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)) \ X0 \ X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X0) \wedge ((m1\_subset\_1 \\ & X1 \ X0) \wedge ((v2\_funct\_1 \ X2) \wedge (m1\_finseq\_1 \ X2 \ X0)))) \Rightarrow (v2\_funct\_1 \ ( \\ & k1\_finseq\_5 \ X0 \ X2 \ X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2\_topreal1 \ X0) \wedge (m1\_finseq\_1 \ X0 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)))) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)))) \Rightarrow (v2\_topreal1 \ (k1\_finseq\_5 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)) \ X0 \ X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_topreal1 \ X0) \wedge (m1\_finseq\_1 \ X0 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)))) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)))) \Rightarrow (v1\_topreal1 \ (k1\_finseq\_5 \ (u1\_struct\_0 \ (k15\_euclid \\ & np\_2)) \ X0 \ X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_relat\_1 \ X1) \wedge ( \\ & (v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1))) \end{aligned} \quad (14)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 \ X0)\wedge((v1\_funct\_1 \ X0)\wedge(v1\_finseq\_1 \ X0)))\Rightarrow(m1\_subset\_1 \ (k4\_finseq\_4 \ X0 \ X1) \ k5\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 \ X0)\wedge(m1\_finseq\_1 \ X1 \ X0))\Rightarrow(m2\_finseq\_1 \ (k1\_finseq\_5 \ X0 \ X1 \ X2) \ X0) \quad (17)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1 \ X0 \ (u1\_struct\_0 \ (k15\_euclid \ np\_2)))\Rightarrow((v4\_topreal1 \ X0)\Leftrightarrow((v2\_funct\_1 \ X0)\wedge((r1\_xxreal\_0 \ np\_2 \ (k3\_finseq\_1 \ X0))\wedge((v2\_topreal1 \ X0)\wedge((v3\_topreal1 \ X0)\wedge(v1\_topreal1 \ X0)))))) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 \ X0)\Rightarrow(\forall X1.((v1\_relat\_1 \ X1)\wedge(v5\_relat\_1 \ X1 \ X0))\Rightarrow((v1\_xboole\_0 \ X1)\wedge((v1\_relat\_1 \ X1)\wedge(v5\_relat\_1 \ X1 \ X0)))) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1)\Rightarrow(v7\_ordinal1 \ X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ (k1\_zfmisc\_1 \ k1\_numbers))\Rightarrow(v3\_membered \ X0) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 \ X0)\Rightarrow(v1\_xxreal\_0 \ X0) \quad (22)$$

Assume the following.

$$\forall X0.(v3\_membered \ X0)\Rightarrow(v2\_membered \ X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1\_finseq\_1 \ X0 \ (u1\_struct\_0 \ (k15\_euclid \ np\_2)))\Rightarrow((v4\_topreal1 \ X0)\Rightarrow(\neg v1\_xboole\_0 \ X0)) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 \ X1 \ X0)\Rightarrow(v5\_relat\_1 \ X1 \ X0) \quad (25)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (27)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.((v4\_topreal1 X1) \wedge (m2\_finseq\_1 X1 (u1\_struct\_0 ( \\ & k15\_euclid np\_2)))) \Rightarrow ((X0 \in k10\_xtuple\_0 X1) \Rightarrow ((k4\_finseq\_4 X1 \\ & X0 = np\_1) \vee (v4\_topreal1 (k1\_finseq\_5 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) X1 X0)))))) \end{aligned}$$