

t49_sppol_2
(TMFSvd388mTUdvUZ838iQTpw1LbqAymnZu3)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $r1_topreal4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_finseq_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_5 : \iota \Rightarrow \iota$ be given. Let $v4_topreal1 : \iota \Rightarrow o$ 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 $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\ & ((\neg v1_xboole_0 X1) \Rightarrow ((k7_partfun1 X0 X1 np_1 = k7_partfun1 X0 (\\ & k4_finseq_5 X0 X1) (k3_finseq_1 X1)) \wedge (k7_partfun1 X0 X1 (k3_finseq_1 \\ & X1) = k7_partfun1 X0 (k4_finseq_5 X0 X1) np_1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (k3_topreal1 np_2 X0 = k3_topreal1 np_2 (k4_finseq_5 (u1_struct_0 \\ & (k15_euclid np_2)) X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow (k4_finseq_5 X0 X1 = k3_finseq_5 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow (k4_finseq_5 X0 (k4_finseq_5 X0 X1) = X1) \quad (5)$$

Assume the following.

$$\forall X0.((v4_topreal1\ X0) \wedge (m1_finseq_1\ X0\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow (v4_topreal1\ (k3_finseq_5\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0) \Rightarrow ((v1_relat_1\ X1) \wedge (v1_funct_1\ X1) \wedge (v1_finseq_1\ X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0) \Rightarrow (m2_finseq_1\ (k4_finseq_5\ X0\ X1)\ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow ((r1_topreal4\ X0\ X1\ X2) \Leftrightarrow (\exists X3.(m2_finseq_1\ X3\ (u1_struct_0\ (k15_euclid\ np_2)))) \wedge ((v4_topreal1\ X3) \wedge ((X0 = k3_topreal1\ np_2\ X3) \wedge ((X1 = k7_partfun1\ (u1_struct_0\ (k15_euclid\ np_2))\ X3\ np_1) \wedge (X2 = k7_partfun1\ (u1_struct_0\ (k15_euclid\ np_2))\ X3\ (k3_finseq_1\ X3)))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.((v1_relat_1\ X1) \wedge (v5_relat_1\ X1\ X0)) \Rightarrow ((v1_xboole_0\ X1) \wedge ((v1_relat_1\ X1) \wedge (v5_relat_1\ X1\ X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(m1_finseq_1\ X0\ (u1_struct_0\ (k15_euclid\ np_2))) \Rightarrow ((v4_topreal1\ X0) \Rightarrow (\neg v1_xboole_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0) \Rightarrow (v5_relat_1\ X1\ X0) \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ (k15_euclid\ np_2)))) \Rightarrow ((r1_topreal4\ X0\ X1\ X2) \Rightarrow (r1_topreal4\ X0\ X2\ X1)) \end{aligned}$$