

t39_sppol_1 (TMMyn-
dFmyaNNKjQHxrezzYuHBd4J9Jq6sYX)

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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 $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k8_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ 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 $g1_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v1_metric_1 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $k13_euclid : \iota \Rightarrow \iota$ be given. Let $u1_metric_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\forall X2.(\\
 & m1_subset_1 X2 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 \\
 & X3 (k1_euclid X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_euclid X0)) \Rightarrow \\
 & (((X3 = X1) \wedge (X4 = X2)) \Rightarrow (k4_metric_1 (k14_euclid X0) X1 X2 = k12_euclid \\
 & (k8_euclid X0 X3 X4))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
 & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
 & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v3_valued_0 X0)\wedge(v1_finseq_1 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v3_valued_0 X1)\wedge(v1_finseq_1 X1))))))\Rightarrow(k8_rvsum_1 X0 X1 = k45_valued_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1 X0)\wedge((m1_subset_1 X1 (k1_euclid X0))\wedge(m1_subset_1 X2 (k1_euclid X0))))\Rightarrow(k8_euclid X0 X1 X2 = k45_valued_1 X1 X2) \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7_ordinal1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\wedge((m1_subset_1 X2 (u1_struct_0 (k15_euclid X0)))\wedge((v1_relat_1 X3)\wedge((v1_funct_1 X3)\wedge((v1_finseq_1 X3)\wedge(v3_valued_0 X3))))\wedge((v1_relat_1 X4)\wedge((v1_funct_1 X4)\wedge((v1_finseq_1 X4)\wedge(v3_valued_0 X4))))))))\Rightarrow(((X1 = X3)\wedge(X2 = X4))\Rightarrow(k5_algstr_0 (k15_euclid X0) X1 X2 = k8_rvsum_1 X3 X4)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) k1_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) k1_numbers))))))\Rightarrow(\forall X2.\forall X3.(g1_metric_1 X0 X1 = g1_metric_1 X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v4_funct_1 (u1_struct_0 (k15_euclid X0))) \quad (9)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((v1_metric_1 (k14_euclid X0))\wedge((v6_metric_1 (k14_euclid X0))\wedge((v7_metric_1 (k14_euclid X0))\wedge((v8_metric_1 (k14_euclid X0))\wedge((v9_metric_1 (k14_euclid X0))\wedge(l1_metric_1 (k14_euclid X0))))))) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_funct_1 (k13_euclid X0)) \wedge (v1_funct_2 (k13_euclid X0) (k2_zfmisc_1 (k1_euclid X0) (k1_euclid X0)) k1_numbers) \wedge (m1_subset_1 (k13_euclid X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid X0)) k1_numbers)))))) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k14_euclid X0 = g1_metric_1 (k1_euclid X0) (k13_euclid X0)) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_relat_1 X1) \wedge (v1_funct_1 X1)) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (v3_valued_0 X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (v1_finseq_1 X1)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow ((v1_metric_1 X0) \Rightarrow (X0 = g1_metric_1 (u1_struct_0 X0) (u1_metric_1 X0))) \quad (19)$$

Theorem 1

$$\forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k14_euclid X0))) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow (k4_metric_1 (k14_euclid X0) X3 X4 = k12_euclid (k5_algstr_0 (k15_euclid X0) X1 X2))))))))))$$