

t14_jgraph_4

(TMT4DPjvWLbhAQC64GwJUy89D1dXoxjf3ug)

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Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k1z_fmisc.1 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $k10_metric.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9_rltopsp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $v1_xreal.0 : \iota \Rightarrow o$ be given. Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v6_metric.1 : \iota \Rightarrow o$ 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 $v6_tbsp.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ 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 $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect.1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_metric.1 : \iota \Rightarrow o$ be given. Let $v7_metric.1 : \iota \Rightarrow o$ be given. Let $r1_xreal.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_metric.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_compts.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (u1_struct.0 (k15_euclid X0) = u1_struct.0 (k14_euclid X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1_xboole.0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal.0 X0) \Rightarrow (\forall X1.((\neg v2_struct.0 X1) \wedge (v6_metric.1 X1) \wedge ((v8_metric.1 X1) \wedge ((v9_metric.1 X1) \wedge (l1_metric.1 X1)))))) \Rightarrow (\forall X2.(m1_subset.1 X2 (u1_struct.0 X1)) \Rightarrow (v6_tbsp.1 (k10_metric.1 X1 X2 X0) X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 (k14_euclid X0))) \Rightarrow (\forall X2.(\\ m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \Rightarrow \\ (\forall X3.(v1_xreal_0 X3) \Rightarrow ((X2 = k10_metric_1 (k14_euclid X0) \\ X1 X3) \Rightarrow (v4_pre_topc X2 (k15_euclid X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 (k15_euclid X0)))) \Rightarrow ((v9_rltopsp1 X1 (k15_euclid \\ X0)) \Leftrightarrow ((v6_tbsp_1 X1 (k14_euclid X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 (k14_euclid X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow ((v2_pre_topc (k15_euclid X0)) \wedge \\ ((v13_algstr_0 (k15_euclid X0)) \wedge ((v2_rlvect_1 (k15_euclid X0)) \wedge \\ ((v3_rlvect_1 (k15_euclid X0)) \wedge ((v4_rlvect_1 (k15_euclid X0)) \wedge \\ ((v5_rlvect_1 (k15_euclid X0)) \wedge ((v6_rlvect_1 (k15_euclid X0)) \wedge \\ ((v7_rlvect_1 (k15_euclid X0)) \wedge ((v8_rlvect_1 (k15_euclid X0)) \wedge \\ (v5_rltopsp1 (k15_euclid X0)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l1_pre_topc X0)) \quad (11)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (12)$$

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.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow & ((v1_metric_1 (k14_euclid X0)) \wedge \\ & ((v6_metric_1 (k14_euclid X0)) \wedge (v7_metric_1 (k14_euclid X0)) \wedge \\ & ((v8_metric_1 (k14_euclid X0)) \wedge (v9_metric_1 (k14_euclid X0)) \wedge \\ & (l1_metric_1 (k14_euclid X0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_metric_1 X0) \Rightarrow & (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (k1_zfmisc_1 (u1_struct_0 X0)) \Rightarrow (((-v2_struct_0 X0) \Rightarrow ((X3 = k10_metric_1 \\ & X0 X1 X2) \Leftrightarrow (X3 = ReplSep (toset (\lambda X4 : \iota.m1_subset_1 X4 (u1_struct_0 \\ & X0))) (\lambda X4 : \iota.r1_xreal_0 (k2_metric_1 X0 X1 X4) X2) (\lambda X4 : \\ & \iota.X4)))) \wedge ((v2_struct_0 X0) \Rightarrow ((X3 = k10_metric_1 X0 X1 X2) \Leftrightarrow (v1_xboole_0 \\ & X3))))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow & (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v1_xboole_0 \\ & X1) \Rightarrow (v4_pre_topc X1 X0))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow & (\forall X1.(m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \Rightarrow ((v2_compts_1 \\ & X1 (k15_euclid X0)) \Rightarrow (v9_rltopsp1 X1 (k15_euclid X0)))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((v1_xboole_0\ X1) \Rightarrow (v2_compts_1\ X1\ X0))) \end{aligned} \quad (22)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1\ (u1_struct_0\ (k14_euclid\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\ k1_numbers) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\ (k15_euclid\ X0)))) \Rightarrow ((X3 = k10_metric_1\ (k14_euclid\ X0)\ X1\ X2) \Rightarrow \\ ((v9_rltopsp1\ X3\ (k15_euclid\ X0)) \wedge (v4_pre_topc\ X3\ (k15_euclid \\ X0)))))) \end{aligned}$$