

t38_taxonom1 (TMQ-
dAP16PHT8zHCz6NENxR3c8ekM78FbFVb)

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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 $v5_tbsp_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tbsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k18_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (v6_metric_1 X1) \wedge (v8_metric_1 X1) \wedge (v5_tbsp_1 X1) \wedge (l1_metric_1 X1))) \Rightarrow ((r1_xxreal_0 (k3_tbsp_1 X1 (k2_struct_0 X1)) X0) \Rightarrow (r2_relset_1 (u1_struct_0 X1) (u1_struct_0 X1) (k3_taxonom1 X1 X0) (k1_eqrel_1 (u1_struct_0 X1)))))) \quad (2)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (r1_tarski X0 (k18_finseq_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\Rightarrow(k13_lang1 X0 X1 = k18_finseq_1 X1) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow(l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k3_taxonom1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.m1_subset_1 (k1_eqrel_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\Rightarrow(m1_subset_1 (k13_lang1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (10)$$

Assume the following.

$$\forall X0.k1_eqrel_1 X0 = k2_zfmisc_1 X0 X0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (13)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v6_metric_1 X1)\wedge((v8_metric_1 X1)\wedge((v5_tbsp_1 X1)\wedge(l1_metric_1 X1))))))\Rightarrow((r1_xxreal_0 (k3_tbsp_1 X1 (k2_struct_0 X1)) X0)\Rightarrow(r2_relset_1 (u1_struct_0 X1) (u1_struct_0 X1) (k3_taxonom1 X1 X0) (k13_lang1 (u1_struct_0 X1) (k3_taxonom1 X1 X0))))))$$