

t39_taxonom1

(TMNsjLaFtgmuFpnrMzTHFairAcGkWUd8qP)

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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 $k13_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ (v6_metric_1 X1) \wedge ((v8_metric_1 X1) \wedge ((v5_tbsp_1 X1) \wedge (l1_metric_1 \\ X1)))))) \Rightarrow ((r1_xxreal_0 (k3_tbsp_1 X1 (k2_struct_0 X1)) X0) \Rightarrow (r2_relset_1 \\ (u1_struct_0 X1) (u1_struct_0 X1) (k3_taxonom1 X1 X0) (k13_lang1 \\ (u1_struct_0 X1) (k3_taxonom1 X1 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ (v6_metric_1 X1) \wedge ((v8_metric_1 X1) \wedge ((v5_tbsp_1 X1) \wedge (l1_metric_1 \\ X1)))))) \Rightarrow ((r1_xxreal_0 (k3_tbsp_1 X1 (k2_struct_0 X1)) X0) \Rightarrow (r2_relset_1 \\ (u1_struct_0 X1) (u1_struct_0 X1) (k3_taxonom1 X1 X0) (k1_eqrel_1 \\ (u1_struct_0 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2_struct_0 X0) \wedge (l1_metric_1 X0)) \wedge \\ (v1_xreal_0 X1) \Rightarrow (m1_subset_1 (k3_taxonom1 X0 X1) (k1_zfmisc_1 \\ (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X0)))) \Rightarrow (m1_subset_1 (k13_lang1 X0 X1) (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.k1_eqrel_1 X0 = k2_zfmisc_1 X0 X0 \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ (v6_metric_1 X1) \wedge ((v8_metric_1 X1) \wedge ((v5_tbsp_1 X1) \wedge (l1_metric_1 \\ X1)))))) \Rightarrow ((r1_xxreal_0 (k3_tbsp_1 X1 (k2_struct_0 X1)) X0) \Rightarrow (r2_relset_1 \\ (u1_struct_0 X1) (u1_struct_0 X1) (k13_lang1 (u1_struct_0 X1) \\ (k3_taxonom1 X1 X0)) (k1_eqrel_1 (u1_struct_0 X1)))))) \end{aligned}$$