

t1_metrizts

(TMTY5ds4Zxgj6FtKknrk2CqYAUiJHzbj7b)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $r1_borsuk_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_metrizts : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $r1_t_0topsp : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (k1_pre_topc X0 (k2_struct_0 X0) = g1_pre_topc (u1_struct_0 X0) (u1_pre_topc X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(l1_pre_topc X1) \Rightarrow ((\\ & \quad \neg(\neg r1_t_0topsp X0 X1) \wedge (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\neg(k1_relset_1 \\ & (u1_struct_0 X0) X2 = k2_struct_0 X0) \wedge (k2_relset_1 (u1_struct_0 \\ & X1) X2 = k2_struct_0 X1)))) \Rightarrow ((v2_struct_0 X0) \Leftrightarrow (v2_struct_0 X1)))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc X1))) \Rightarrow ((\\ & r1_t_0topsp X0 X1) \Leftrightarrow (r1_t_0topsp (g1_pre_topc (u1_struct_0 X0) \\ & (u1_pre_topc X0)) (g1_pre_topc (u1_struct_0 X1) (u1_pre_topc \\ & X1)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0) \wedge (l1_pre_topc X1)) \Rightarrow (r1_borsuk_3 X0 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(l1_pre_topc\ X1))\Rightarrow((r1_borsuk_3\ X0\ X1)\Leftrightarrow(r1_t_0topsp\ X0\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.((v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.((v2_struct_0\ X1)\wedge((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))))\Rightarrow(r1_borsuk_3\ X0\ X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow((\neg v2_struct_0\ (g1_pre_topc\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0)))\wedge(v1_pre_topc\ (g1_pre_topc\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_pre_topc\ (k1_pre_topc\ X0\ X1))\wedge(v2_pre_topc\ (k1_pre_topc\ X0\ X1))) \quad (8)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_pre_topc\ X1\ X0)\Rightarrow (l1_pre_topc\ X1)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (10)$$

Assume the following.

$$\forall X0.(l1_struct_0\ X0)\Rightarrow(m1_subset_1\ (k2_struct_0\ X0)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_pre_topc\ (k1_pre_topc\ X0\ X1))\wedge(m1_pre_topc\ (k1_pre_topc\ X0\ X1)\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\Rightarrow((r1_metrizts\ X0\ X1\ X2\ X3)\Leftrightarrow (r1_borsuk_3\ (k1_pre_topc\ X0\ X2)\ (k1_pre_topc\ X1\ X3)))))) \quad (13)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow((v1_pre_topc\ X0)\Rightarrow(X0 = g1_pre_topc\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0))) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow((r1_borsuk_3\ X0\ X1)\Leftrightarrow(r1_metrizts \\ & X0\ X1\ (k2_struct_0\ X0)\ (k2_struct_0\ X1)))) \end{aligned}$$