

t27_topdim_1

(TMLd1i4pPXWyZzpNGg7cM669GL8pRoC9vmu)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_metrizts : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_topdim_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topdim_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_borsuk_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_topdim_1 : \iota \Rightarrow o$ be given. Let $k4_topdim_1 : \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow ((r1_metrizts X0 X1 X2 X3) \Rightarrow \\ & ((v1_topdim_1 X2 X0) \Leftrightarrow (v1_topdim_1 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1)) \Rightarrow ((r1_borsuk_3 X0 X1) \Rightarrow ((\\ & (v3_topdim_1 X0) \Rightarrow (v3_topdim_1 X1)) \wedge (((v3_topdim_1 X1) \Rightarrow (v3_topdim_1 \\ & X0)) \wedge ((v3_topdim_1 X0) \Rightarrow (k4_topdim_1 X1 = k4_topdim_1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_topdim_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow ((v3_topdim_1 (k1_pre_topc X0 X1)) \wedge (k4_topdim_1 (k1_pre_topc \\ & X0 X1) = k2_topdim_1 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_pre_topc \\ & (k1_pre_topc X0 X1)) \wedge (v2_pre_topc (k1_pre_topc X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_pre_topc\ X1\ X0)\Rightarrow(l1_pre_topc\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_pre_topc\ (k1_pre_topc\ X0\ X1))\wedge(m1_pre_topc\ (k1_pre_topc\ X0\ X1)\ X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow(\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X3.(m1_subset_1 \\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\Rightarrow((r1_metrizts\ X0\ X1\ X2\ X3)\Leftrightarrow \\ (r1_borsuk_3\ (k1_pre_topc\ X0\ X2)\ (k1_pre_topc\ X1\ X3)))))) \quad (7) \end{aligned}$$

Theorem 1

$$\begin{aligned} \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow(\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X3.(m1_subset_1 \\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\Rightarrow(((r1_metrizts\ X0\ X1\ X2\ X3)\wedge \\ (v1_topdim_1\ X2\ X0))\Rightarrow(k2_topdim_1\ X0\ X2 = k2_topdim_1\ X1\ X3)))))) \end{aligned}$$