

t72_tmap_1 (TMTUZbQdqRXD- jiUS3JqWWzzr3b7xk924WzQ)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ 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 $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc X2 X1) \Rightarrow (m1_pre_topc \\ & X2 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow ((k5_relat_1 (k5_relat_1 X2 X0) X1 = k5_relat_1 \\ & X2 X0) \wedge (k5_relat_1 (k5_relat_1 X2 X1) X0 = k5_relat_1 X2 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc X2 X0) \Rightarrow ((r1_tarski \\ & (u1_struct_0 X1) (u1_struct_0 X2)) \Leftrightarrow (m1_pre_topc X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \tag{7}$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_pre_topc X1 X0)\Rightarrow(l1_pre_topc X1)) \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2_struct_0 \\ & X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge(((\neg v2_struct_0 X1)\wedge \\ & ((v2_pre_topc X1)\wedge(l1_pre_topc X1)))\wedge((m1_pre_topc X2 X0)\wedge \\ & (m1_pre_topc X3 X0)\wedge((v1_funct_1 X4)\wedge((v1_funct_2 X4 (u1_struct_0 \\ & X2) (u1_struct_0 X1))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X2) (u1_struct_0 X1))))))))))\Rightarrow((v1_funct_1 (k3_tmap_1 \\ & X0 X1 X2 X3 X4)\wedge((v1_funct_2 (k3_tmap_1 X0 X1 X2 X3 X4) (u1_struct_0 \\ & X3) (u1_struct_0 X1))\wedge(m1_subset_1 (k3_tmap_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X3) (u1_struct_0 X1)))))) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ & X0)))\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v2_pre_topc X1)\wedge(l1_pre_topc \\ & X1)))\Rightarrow(\forall X2.(m1_pre_topc X2 X0)\Rightarrow(\forall X3.(m1_pre_topc \\ & X3 X0)\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 X4 (u1_struct_0 \\ & X2) (u1_struct_0 X1))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X2) (u1_struct_0 X1))))))))\Rightarrow((m1_pre_topc X3 X2)\Rightarrow \\ & (k3_tmap_1 X0 X1 X2 X3 X4 = k2_partfun1 (u1_struct_0 X2) (u1_struct_0 \\ & X1) X4 (u1_struct_0 X3)))))) \end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_relat_1 X1)) \tag{12}$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ (m1_pre_topc\ X1\ X0)\Rightarrow(v2_pre_topc\ X1)) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc \\ X0)))\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge((v2_pre_topc\ X1)\wedge(l1_pre_topc \\ X1))))\Rightarrow(\forall X2.((\neg v2_struct_0\ X2)\wedge(m1_pre_topc\ X2\ X0))\Rightarrow(\\ \forall X3.((\neg v2_struct_0\ X3)\wedge(m1_pre_topc\ X3\ X0))\Rightarrow(\forall X4. \\ ((\neg v2_struct_0\ X4)\wedge(m1_pre_topc\ X4\ X0))\Rightarrow(((m1_pre_topc\ X3\ X2)\wedge \\ (m1_pre_topc\ X4\ X3))\Rightarrow(\forall X5.((v1_funct_1\ X5)\wedge((v1_funct_2 \\ X5\ (u1_struct_0\ X2)\ (u1_struct_0\ X1))\wedge(m1_subset_1\ X5\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ (u1_struct_0\ X2)\ (u1_struct_0\ X1))))))\Rightarrow(r2_funct_2 \\ (u1_struct_0\ X4)\ (u1_struct_0\ X1)\ (k3_tmap_1\ X0\ X1\ X3\ X4\ (k3_tmap_1 \\ X0\ X1\ X2\ X3\ X5))\ (k3_tmap_1\ X0\ X1\ X2\ X4\ X5)))))))))) \end{aligned}$$