

t85_tmap_1

(TMQbd1hCPPdAKjSZhhX9ZPipjBpWDregFMz)

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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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k3_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\
& X1))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X1)) \Rightarrow (\\
& \forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow (\forall X4. ((v1_funct_1 \\
& X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X2) (u1_struct_0 X0)) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X2) (u1_struct_0 X0)))))) \Rightarrow \\
& ((\forall X5. (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow ((X5 \in u1_struct_0 \\
& X2) \Rightarrow (k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) X3 X5 = k1_funct_1 \\
& X4 X5))) \Rightarrow (r2_funct_2 (u1_struct_0 X2) (u1_struct_0 X0) (k2_tmap_1 \\
& X1 X0 X3 X2) X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \tag{3}$$

Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat_1 X0 \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_boole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_boole_0 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_struct_0 X0) \Rightarrow ((v1_funct_1 (k3_struct_0 X0)) \wedge \\ & ((v1_funct_2 (k3_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 (k3_struct_0 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow (k4_tmap_1 X0 X1 = k2_tmap_1 \\ & X0 X0 (k3_struct_0 X0) X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (k3_struct_0 X0 = k6_partfun1 (u1_struct_0 X0)) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X1) \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow ((\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in u1_struct_0 X1) \Rightarrow (X3 = k1_funct_1 X2 \\ & X3))) \Rightarrow (r2_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) (k4_tmap_1 \\ & X0 X1) X2)))) \end{aligned}$$