

t71\_tmap\_1  
(TMPu5yjNFBiGjY6hdAhpR2vjGGiqELZNYAw)

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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  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_tmap\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tmap\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
& X1)))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X0))) \Rightarrow ( \\
& \forall X3.((\neg v2\_struct\_0 X3) \wedge (m1\_pre\_topc X3 X0))) \Rightarrow (\forall X4. \\
& ((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 \\
& X5 (u1\_struct\_0 X2) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 X2) (u1\_struct\_0 X1)))))) \Rightarrow (((r2\_funct\_2 \\
& (u1\_struct\_0 X2) (u1\_struct\_0 X1) X5 (k2\_tmap\_1 X0 X1 X4 X2)) \wedge (m1\_pre\_topc \\
& X3 X2))) \Rightarrow (r2\_funct\_2 (u1\_struct\_0 X3) (u1\_struct\_0 X1) (k3\_tmap\_1 \\
& X0 X1 X2 X3 X5) (k2\_tmap\_1 X0 X1 X4 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X2) \wedge \\
& ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X1)))))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\
& X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_pre\_topc X1 X0) \Rightarrow (l1\_pre\_topc X1)) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((l1\_struct\_0\ X0)\wedge \\ & ((l1\_struct\_0\ X1)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0 \\ & X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\wedge(l1\_struct\_0\ X3))))\Rightarrow \\ & ((v1\_funct\_1\ (k2\_tmap\_1\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k2\_tmap\_1 \\ & X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X3)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ (k2\_tmap\_1 \\ & X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X3)\ (u1\_struct\_0 \\ & X1)))))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc \\ & X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc \\ & X1))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(m1\_pre\_topc\ X2\ X0)))\Rightarrow( \\ & \forall X3.((\neg v2\_struct\_0\ X3)\wedge(m1\_pre\_topc\ X3\ X0)))\Rightarrow(\forall X4. \\ & ((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ X0)\ (u1\_struct\_0 \\ & X1))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0 \\ & X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((m1\_pre\_topc\ X2\ X3)\Rightarrow(r2\_funct\_2\ ( \\ & u1\_struct\_0\ X2)\ (u1\_struct\_0\ X1)\ (k3\_tmap\_1\ X0\ X1\ X3\ X2\ (k2\_tmap\_1 \\ & X0\ X1\ X4\ X3))\ (k2\_tmap\_1\ X0\ X1\ X4\ X2)))))) \end{aligned}$$