

# t140\_tmap\_1 (TM- SnYm4m6g6oVvecceqKunNwtMJCnw7tyGx)

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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  $v1\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k10\_tmap\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r4\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ X0))) \Rightarrow (\forall X1. ((v1\_borsuk\_1 X1 X0) \wedge (m1\_pre\_topc X1 X0)) \Rightarrow \\ (\forall X2. ((v1\_borsuk\_1 X2 X0) \wedge (m1\_pre\_topc X2 X0)) \Rightarrow (r4\_tsep\_1 \\ X0 X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
& X1))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X0)) \Rightarrow ( \\
& \forall X3.((\neg v2\_struct\_0 X3) \wedge (m1\_pre\_topc X3 X0)) \Rightarrow ((X0 = k1\_tsep\_1 \\
& X0 X2 X3) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 \\
& X2) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X4 X2 X1) \wedge (m1\_subset\_1 X4 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X2) (u1\_struct\_0 X1)))))) \Rightarrow \\
& (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 X3) \\
& (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X5 X3 X1) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 X3) (u1\_struct\_0 X1)))))) \Rightarrow (((r2\_funct\_2 \\
& (u1\_struct\_0 X2) (u1\_struct\_0 X1) (k3\_tmap\_1 X0 X1 (k1\_tsep\_1 X0 \\
& X2 X3) X2 (k10\_tmap\_1 X0 X1 X2 X3 X4 X5)) X4) \wedge ((r2\_funct\_2 (u1\_struct\_0 \\
& X3) (u1\_struct\_0 X1) (k3\_tmap\_1 X0 X1 (k1\_tsep\_1 X0 X2 X3) X3 (k10\_tmap\_1 \\
& X0 X1 X2 X3 X4 X5)) X5) \wedge (r4\_tsep\_1 X0 X2 X3))) \Rightarrow ((v1\_funct\_1 (k10\_tmap\_1 \\
& X0 X1 X2 X3 X4 X5)) \wedge ((v1\_funct\_2 (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) \\
& X0 X1) \wedge (m1\_subset\_1 (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) (k1\_zfmisc\_1 ( \\
& k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))))))))))) \\
& \tag{2}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
& X1))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge ((v1\_borsuk\_1 X2 X0) \wedge ( \\
& m1\_pre\_topc X2 X0))) \Rightarrow (\forall X3.((\neg v2\_struct\_0 X3) \wedge ((v1\_borsuk\_1 \\
& X3 X0) \wedge (m1\_pre\_topc X3 X0))) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge (( \\
& v1\_funct\_2 X4 (u1\_struct\_0 X2) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc \\
& X4 X2 X1) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X2) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 \\
& X5 (u1\_struct\_0 X3) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X5 X3 X1) \wedge \\
& (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X3) (u1\_struct\_0 \\
& X1)))))) \Rightarrow (((X0 = k1\_tsep\_1 X0 X2 X3) \wedge ((r2\_funct\_2 (u1\_struct\_0 \\
& X2) (u1\_struct\_0 X1) (k3\_tmap\_1 X0 X1 (k1\_tsep\_1 X0 X2 X3) X2 (k10\_tmap\_1 \\
& X0 X1 X2 X3 X4 X5)) X4) \wedge (r2\_funct\_2 (u1\_struct\_0 X3) (u1\_struct\_0 \\
& X1) (k3\_tmap\_1 X0 X1 (k1\_tsep\_1 X0 X2 X3) X3 (k10\_tmap\_1 X0 X1 X2 X3 \\
& X4 X5)) X5)) \Rightarrow ((v1\_funct\_1 (k10\_tmap\_1 X0 X1 X2 X3 X4 X5)) \wedge ((v1\_funct\_2 \\
& (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge \\
& ((v5\_pre\_topc (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) X0 X1) \wedge (m1\_subset\_1 \\
& (k10\_tmap\_1 X0 X1 X2 X3 X4 X5) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1))))))))))))) \\
& \tag{2}
\end{aligned}$$