

t8\_topreala (TMURa-  
WodxA1ZwrwYeurnVm9jWNbnsHGWFLZ)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc X1))) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3.((v2\_pre\_topc X3) \wedge (l1\_pre\_topc \\
& X3)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (((v5\_pre\_topc X2 X0 X1) \wedge (m1\_pre\_topc X3 X1)) \Rightarrow (\forall X5.((v1\_funct\_1 \\
& X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 (k1\_pre\_topc X0 X4)) (u1\_struct\_0 \\
& X3)) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& (k1\_pre\_topc X0 X4)) (u1\_struct\_0 X3)))))) \Rightarrow ((X5 = k2\_partfun1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X4) \Rightarrow (v5\_pre\_topc X5 (k1\_pre\_topc \\
& X0 X4) X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_pre\_topc X1 X0) \Rightarrow (l1\_pre\_topc X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v1\_pre\_topc (k1\_pre\_topc X0 X1)) \wedge (m1\_pre\_topc (k1\_pre\_topc X0 X1) X0)) \tag{3}$$

Assume the following.

$$\forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1.(m1\_pre\_topc X1 X0) \Rightarrow (v2\_pre\_topc X1)) \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\ & X1)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1)))) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X4 X0 X1) \wedge (m1\_subset\_1 X4 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))))) \Rightarrow \\ & (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 (k1\_pre\_topc \\ & X0 X2)) (u1\_struct\_0 (k1\_pre\_topc X1 X3))) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 (k1\_pre\_topc X0 X2)) (u1\_struct\_0 ( \\ & k1\_pre\_topc X1 X3))))))) \Rightarrow ((X5 = k2\_partfun1 (u1\_struct\_0 X0) ( \\ & u1\_struct\_0 X1) X4 X2) \Rightarrow (v5\_pre\_topc X5 (k1\_pre\_topc X0 X2) (k1\_pre\_topc \\ & X1 X3)))))) \end{aligned}$$