

t5\_topgen\_3  
(TMTZq7oR5emvaXhzLRhd86quwg9xgmjFF94)

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Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $g1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc X1)) \Rightarrow ((\forall X2.((v3\_pre\_topc \\ & X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Leftrightarrow ((v3\_pre\_topc \\ & X2 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))))) \Rightarrow ((u1\_struct\_0 \\ & X0 = u1\_struct\_0 X1) \wedge (r1\_tarski (u1\_pre\_topc X0) (u1\_pre\_topc \\ & X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc X1)) \Rightarrow ((\forall X2.((v3\_pre\_topc \\ & X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Leftrightarrow ((v3\_pre\_topc \\ & X2 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))))) \Rightarrow (g1\_pre\_topc \\ & (u1\_struct\_0 X0) (u1\_pre\_topc X0) = g1\_pre\_topc (u1\_struct\_0 X1) \\ & (u1\_pre\_topc X1)))))) \end{aligned}$$