

t21_topgen_1 (TMRjQxyU- vPCWFgLx1c9HtgHQRmNqW3zZpie)

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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 $r1_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in k2_topgen_1 \\ & X0 X1) \Leftrightarrow (\forall X3.((v3_pre_topc X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow (\neg (X2 \in X3) \wedge (\forall X4.(m1_subset_1 X4 (\\ & u1_struct_0 X0)) \Rightarrow (\neg (X4 \in k9_subset_1 (u1_struct_0 X0) X1 X3) \wedge (\\ & X2 \neq X4)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.(X2 \in k2_topgen_1 X0 X1) \Leftrightarrow (r1_topgen_1 X0 X1 X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_topgen_1 \\ X0 X1 X2) \Leftrightarrow (\forall X3.((v3_pre_topc X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow (\neg(X2 \in X3) \wedge (\forall X4.(m1_subset_1 X4 (\\ & u1_struct_0 X0)) \Rightarrow (\neg(X4 \neq X2) \wedge ((X4 \in X1) \wedge (X4 \in X3)))))))))) \end{aligned}$$