

t33_tops_1

(TMQKEghoCF4zNULK98pK8bfen5bErXY4uy)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (r1_tarski (\\ & k2_tops_1 X0 (k9_subset_1 (u1_struct_0 X0) X1 X2)) (k4_subset_1 \\ & (u1_struct_0 X0) (k2_tops_1 X0 X1) (k2_tops_1 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (k2_tops_1 X0 X1 = k2_tops_1 X0 (k3_subset_1 \\ & (u1_struct_0 X0) X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k7_subset_1 \\ & X0 X1 X2) = k4_subset_1 X0 (k3_subset_1 X0 X1) X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k9_subset_1 \\ & X0 X1 (k3_subset_1 X0 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 \\ & X0 (k3_subset_1 X0 X1) = X1) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 (k7_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_tops_1 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = k4_subset_1 X0 X2 X1) \quad (10)$$

Theorem 1

$$\forall X0.((v2_pre_topc X0)\wedge(l1_pre_topc X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(r1_tarski (k2_tops_1 X0 (k4_subset_1 (u1_struct_0 X0) X1 X2)) (k4_subset_1 (u1_struct_0 X0) (k2_tops_1 X0 X1) (k2_tops_1 X0 X2)))))$$