

t6_t_0topsp
(TMLwjhDB5xiNjA69gb3T4i88rYzLVz9LrvL)

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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 $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_t_0topsp : \iota \Rightarrow \iota$ be given. Let $k4_t_0topsp : \iota \Rightarrow \iota$ be given. Let $k4_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_t_0topsp : \iota \Rightarrow \iota$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k3_funct_2 (u1_struct_0 \\ & X0) (u1_struct_0 (k3_t_0topsp X0)) (k4_t_0topsp X0) X2 = k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 (k3_t_0topsp X0)) (k4_t_0topsp \\ & X0) X1) \Leftrightarrow (k4_borsuk_1 X0 X0 X2 X1 \in k1_t_0topsp X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 (k3_t_0topsp X0)) (k4_t_0topsp \\ & X0) X1 = k6_eqrel_1 (u1_struct_0 X0) (u1_struct_0 X0) (k1_t_0topsp \\ & X0) X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \wedge (((\neg v2_struct_0 X1) \wedge \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1))) \wedge ((m1_subset_1 X2 (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X3 (u1_struct_0 X1)))))) \Rightarrow (k4_borsuk_1 X0 X1 \\ & X2 X3 = k4_tarski X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow & ((v1_partfun1 \\ & (k1_t_0topsp X0) (u1_struct_0 X0)) \wedge ((v3_relat_2 (k1_t_0topsp \\ & X0)) \wedge ((v8_relat_2 (k1_t_0topsp X0)) \wedge (m1_subset_1 (k1_t_0topsp \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow & (\forall X1. \\ & ((v1_partfun1 X1 (u1_struct_0 X0)) \wedge ((v3_relat_2 X1) \wedge ((v8_relat_2 \\ & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) \\ & (u1_struct_0 X0)))))) \Rightarrow ((X1 = k1_t_0topsp X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((k4_tarski X2 X3 \in X1) \Leftrightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X4 X0) \Rightarrow ((X2 \in X4) \Leftrightarrow (X3 \in X4)))))))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((v3_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((X2 \in X1) \wedge \\ & (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 (k3_t_0topsp X0)) (\\ & k4_t_0topsp X0) X2 = k3_funct_2 (u1_struct_0 X0) (u1_struct_0 (\\ & k3_t_0topsp X0)) (k4_t_0topsp X0) X3)) \Rightarrow (X3 \in X1)))))) \end{aligned}$$