

t45_tops_1

(TMXVUwoTm52t9v3Jemc19u2NhpcnLJB5cQg)

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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 $v1_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

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.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in k2_pre_topc X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg(v3_pre_topc X3 X0) \wedge ((X2 \in X3) \wedge (r1_xboole_0 X1 X3))))))) \end{aligned} \quad (7)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{8}$$

Assume the following.

$$\forall X0.((v2_struct_0 \ X0) \wedge (l1_struct_0 \ X0)) \Rightarrow (v1_xboole_0 \ (u1_struct_0 \ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l1_pre_topc \ X0) \Rightarrow (l1_struct_0 \ X0) \tag{10}$$

Assume the following.

$$\forall X0. \forall X1. ((l1_pre_topc \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0)))) \Rightarrow (m1_subset_1 \ (k2_pre_topc \ X0 \ X1) \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \tag{11}$$

Assume the following.

$$\forall X0.(l1_pre_topc \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow ((v1_tops_1 \ X1 \ X0) \Leftrightarrow (k2_pre_topc \ X0 \ X1 = k2_struct_0 \ X0))) \tag{12}$$

Assume the following.

$$\forall X0. \forall X1.(r1_tarski \ X0 \ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{13}$$

Assume the following.

$$\forall X0.(l1_struct_0 \ X0) \Rightarrow (k2_struct_0 \ X0 = u1_struct_0 \ X0) \tag{14}$$

Assume the following.

$$\forall X0. \forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski \ X0 \ X1) \wedge (r1_tarski \ X1 \ X0)) \tag{15}$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)) \Rightarrow (v1_xboole_0 \ X1)) \tag{16}$$

Theorem 1

$$\forall X0.((v2_pre_topc \ X0) \wedge (l1_pre_topc \ X0)) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow ((v1_tops_1 \ X1 \ X0) \Leftrightarrow (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow (\neg(X2 \neq k1_xboole_0) \wedge ((v3_pre_topc \ X2 \ X0) \wedge (r1_xboole_0 \ X1 \ X2))))))$$