

t43_tops_2

(TMZxi74WcnaNL5aezKbDAgcaJcmK538Qo9u)

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Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (k8_relat_1 X2 (k6_subset_1 X0 X1) = k6_subset_1 (k8_relat_1 X2 X0) (k8_relat_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow (v4_pre_topc (k3_subset_1 (u1_struct_0 X0) X1) X0))) \quad (3)$$

Assume the following.

$$\forall X0.k4_xboole_0 k1_xboole_0 X0 = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(l1_struct_0 X1) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 \\ & X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1)))))) \Rightarrow (((k2_struct_0 X1 = k1_xboole_0) \Rightarrow (\\ & k2_struct_0 X0 = k1_xboole_0)) \Rightarrow (k8_relset_1 (u1_struct_0 X0) \\ & (u1_struct_0 X1) X2 (k2_struct_0 X1) = k2_struct_0 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((v4_pre_topc X1 X0) \Leftrightarrow (v3_pre_topc (k3_subset_1 \\ & (u1_struct_0 X0) X1) X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.k4_xboole_0 X0 k1_xboole_0 = X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarSKI X0 X0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k8_relset_1 X0 X1 X2 X3 = k8_relat_1 \\ & X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (12)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (\neg v1_subset_1 X1 X0) \quad (13)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \exists X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge \\ & (v5_relat_1 X2 X1) \wedge ((v1_funct_1 X2) \wedge (v1_funct_2 X2 X0 X1)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xboole_0 X0) \wedge (v1_relat_1 X0)) \Rightarrow (v1_xboole_0 (k8_relat_1 X0 X1)) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_xboole_0 X1)) \Rightarrow (v1_xboole_0 (k8_relat_1 X0 X1)) \quad (18)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (19)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (m1_subset_1 (k8_relset_1 \\ & X0 X1 X2 X3) (k1_zfmisc_1 X0)) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k7_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (22)$$

Assume the following.

$$\forall X0. \forall X1. m1_subset_1 (k6_subset_1 X0 X1) (k1_zfmisc_1 X0) \quad (23)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (24)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(l1_pre_topc\ X1) \Rightarrow (\forall X2. \\
& ((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X1)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0 \\
& X0)\ (u1_struct_0\ X1)))))) \Rightarrow ((v5_pre_topc\ X2\ X0\ X1) \Leftrightarrow (\forall X3. \\
& (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))) \Rightarrow ((v4_pre_topc \\
& X3\ X1) \Rightarrow (v4_pre_topc\ (k8_relset_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X1)\ X2\ X3)\ X0))))))
\end{aligned} \tag{25}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (k3_subset_1\ X0\ X1 = k4_xboole_0\ X0\ X1) \tag{26}$$

Assume the following.

$$\forall X0.(l1_struct_0\ X0) \Rightarrow (k2_struct_0\ X0 = u1_struct_0\ X0) \tag{27}$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0\ X0) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X1\ X0))) \Rightarrow (v1_xboole_0\ X2)) \tag{28}$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0\ X0) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_xboole_0\ X2)) \tag{29}$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_funct_1\ X1)) \tag{30}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \tag{31}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_relat_1\ X2) \tag{32}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (v1_relat_1\ X0) \tag{33}$$

Theorem 1

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(l1_pre_topc\ X1) \Rightarrow (\forall X2. \\ & ((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ (u1_struct_0\ X0)\ (u1_struct_0 \\ & X1)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0 \\ & X0)\ (u1_struct_0\ X1)))))) \Rightarrow (((k2_struct_0\ X1 = k1_xboole_0) \Rightarrow (\\ & k2_struct_0\ X0 = k1_xboole_0)) \Rightarrow ((v5_pre_topc\ X2\ X0\ X1) \Leftrightarrow (\forall X3. \\ & (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))) \Rightarrow ((v3_pre_topc \\ & X3\ X1) \Rightarrow (v3_pre_topc\ (k8_relset_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\ & X1)\ X2\ X3)\ X0)))))) \end{aligned}$$