

t11_substlat
(TMGv4DvxRrrzQGEGNmzbgofMT17j9vRZfg4)

October 27, 2020

Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))) \Rightarrow (r1_tarski (k3_substlat X0 X1 X2) X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))) \Rightarrow (\forall X3.(v1_finset_1 X3) \Rightarrow (((X3 \in X2) \wedge (\forall X4.(v1_finset_1 X4) \Rightarrow (((X4 \in X2) \wedge (r1_tarski X4 X3)) \Rightarrow (X4 = X3)))) \Rightarrow (X3 \in k3_substlat X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))) \Rightarrow (\forall X3.\forall X4.((X2 \in k1_substlat X0 X1) \wedge ((X3 \in X2) \wedge ((X4 \in X2) \wedge (r1_tarski X3 X4)))) \Rightarrow (X3 = X4)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((X3 \in k1_substlat X0 X1) \wedge (X2 \in X3)) \Rightarrow (v1_finset_1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1_xboole_0 (k1_substlat X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_substlat X0 X1) (k1_zfmisc_1 (k5_finsub_1 (k4_partfun1 X0 X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\Rightarrow((m1_subset_1 X1 X0)\Leftrightarrow(X1 \in X0)))\wedge((v1_xboole_0 X0)\Rightarrow((m1_subset_1 X1 X0)\Leftrightarrow(v1_xboole_0 X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (12)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(m2_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1))\Rightarrow(k3_substlat X0 X1 X2 = X2)$$