

t22_card_fil
(TMGDzM4Zgssh6eWLZgUXFSJ5o8ecVR5GV9g)

October 27, 2020

Let $v1_finset.1 : \iota \Rightarrow o$ be given. Let $v3_card_fil : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_card_fil : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k1_card_fil : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $k6_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_setfam.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1_xboole.0 X0) \Rightarrow (\forall X1.(m1_subset.1 X1 (k1_zfmisc.1 X0)) \Rightarrow (\forall X2.(m1_card_fil X2 X0) \Rightarrow (\neg(X1 \in X2) \wedge (k6_subset.1 X0 X1 \in X2)))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 X2))) \Rightarrow (m1_subset.1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset.1 X0 X1 = k4_xboole.0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole.0 X0) \wedge (m1_card_fil X1 X0)) \Rightarrow (k1_card_fil X0 X1 = k7_setfam.1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1_xboole.0 X0) \Rightarrow (\forall X1.(m1_card_fil X1 X0) \Rightarrow ((\neg v1_xboole.0 X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 (k1_zfmisc.1 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset.1 X1 (k1_zfmisc.1 (k1_zfmisc.1 X0))) \Rightarrow (m1_subset.1 (k7_setfam.1 X0 X1) (k1_zfmisc.1 (k1_zfmisc.1 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))) \Rightarrow ((X2 = k7_setfam_1 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 \\ & X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (k3_subset_1 X0 X3 \in X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_card_fil X1 X0) \Rightarrow \\ & ((v3_card_fil X1 X0) \Leftrightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & X0)) \Rightarrow ((X2 \in X1) \vee (k6_subset_1 X0 X2 \in X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_finset_1 X0) \Rightarrow (\forall X1. ((v3_card_fil X1 X0) \wedge \\ & (m1_card_fil X1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & X0)) \Rightarrow ((X2 \in X1) \Leftrightarrow (\neg X2 \in k1_card_fil X0 X1)))) \end{aligned}$$