

t19_card_fil
(TMXV3p9hLe8w6qJwCi4KQsZk4dUY4WiJEKB)

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_card_fil : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k4_card_fil : \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_card_fil : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_fil : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. (\neg v1_finset_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow ((X1 \in k4_card_fil X0) \Leftrightarrow (k1_card_1 (k6_subset_1 X0 X1) \in k1_card_1 X0))) \quad (2)$$

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.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (5)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_card_fil X1 X0) \Rightarrow ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k7_setfam_1 X0 X1) (k1_zfmisc_1 (k1_zfmisc_1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1_finset_1 X0)\Rightarrow(m1_card_fil (k4_card_fil X0) X0) \quad (8)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow((X2 = k7_setfam_1 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 X0))\Rightarrow((X3 \in X2)\Leftrightarrow(k3_subset_1 X0 X3 \in X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.(\neg v1_finset_1 X0)\Rightarrow(k5_card_fil X0 = k1_card_fil X0 (k4_card_fil X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_finset_1 X0) \quad (13)$$

Theorem 1

$$\forall X0.(\neg v1_finset_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow((X1 \in k5_card_fil X0)\Leftrightarrow(k1_card_1 X1 \in k1_card_1 X0)))$$