

t7_card_fil

(TMX89SxKZQivmGGhPBZyfQVpV8J1RLhQwnB)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.k4_xboole_0 X0 (k2_xboole_0 X1 X2) = k3_xboole_0 (k4_xboole_0 X0 X1) (k4_xboole_0 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.k4_xboole_0 X0 k1_xboole_0 = X0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((r1_tarski X1 X2) \Leftrightarrow (r1_tarski (k3_subset_1 X0 X2) (k3_subset_1 X0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0. \exists X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (8)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_card_fil X1 X0) \Rightarrow ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (12)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota. v1_xboole_0 X0) \quad (13)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))) \Rightarrow ((m1_card_fil X1 X0) \Leftrightarrow ((\neg k1_xboole_0 \in X1) \wedge (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k9_subset_1 X0 X2 X3 \in X1)) \wedge (((X2 \in X1) \wedge (r1_tarski X2 X3)) \Rightarrow (X3 \in X1)))))))) \quad (14)$$

Theorem 1

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_card_fil X1 X0) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 X0)))) \Rightarrow ((\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (k3_subset_1 X0 X3 \in X1))) \Rightarrow ((\neg X0 \in X2) \wedge (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (k1_zfmisc_1 X0)) \Rightarrow (((X3 \in X2) \wedge (X4 \in X2)) \Rightarrow (k4_subset_1 X0 X3 X4 \in X2)) \wedge (((X3 \in X2) \wedge (r1_tarski X4 X3)) \Rightarrow (X4 \in X2))))))))))$$