

t45_mcart_1 (TMdMsLcSBJn-
HxA79m8soMy5ncU4FYoASnMN)

October 27, 2020

Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v2_xtuple_0 : \iota \Rightarrow o$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \neq k1_xboole_0) \wedge ((X1 \neq k1_xboole_0) \wedge (X2 \neq k1_xboole_0))) \Leftrightarrow (k3_zfmisc_1 X0 X1 X2 \neq k1_xboole_0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \neg(X0 \neq k1_xboole_0) \wedge (\forall X1. \neg(X1 \in X0) \wedge (\forall X2. \\ & \forall X3. \forall X4. \neg((X2 \in X0) \vee (X3 \in X0)) \wedge (X1 = k3_xtuple_0 X2 \\ & X3 X4))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((r1_tarski X0 (k2_zfmisc_1 X0 X1)) \vee (r1_tarski \\ & X0 (k2_zfmisc_1 X1 X0))) \Rightarrow (X0 = k1_xboole_0) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k2_mcart_1 X0 X1 X2 X3 = k5_xtuple_0 X3) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k1_mcart_1 X0 X1 X2 X3 = k4_xtuple_0 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v2_xtuple_0 X0) \Rightarrow (k3_xtuple_0 (k4_xtuple_0 X0) (k5_xtuple_0 \\ & X0) (k2_xtuple_0 X0) = X0) \end{aligned} \quad (11)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k2_mcart_1 X0 X1 X2 X3) X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k1_mcart_1 X0 X1 X2 X3) X0) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k3_zfmisc_1 X0 X1 X2 = k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) X2 \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 \\ & X1) \wedge (\neg v1_xboole_0 X2))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2))) \Rightarrow (v2_xtuple_0 X3) \end{aligned} \quad (16)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(\neg(\neg r1_tarSKI X0 (k3_zfmisc_1 X0 X1 X2))\wedge(\neg r1_tarSKI X0 (k3_zfmisc_1 X1 X2 X0))\wedge(\neg r1_tarSKI X0 (k3_zfmisc_1 X2 X0 X1)))\Rightarrow(X0 = k1_xboole_0)$$