

t59_mcart_1

(TMc24wum8VQb9CHAAAnAkE2Z41c3RisBP5mQ)

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Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k6_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v3_xtuple_0 : \iota \Rightarrow o$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((X0 \neq k1_xboole_0) \wedge \\ & ((X1 \neq k1_xboole_0) \wedge ((X2 \neq k1_xboole_0) \wedge (X3 \neq k1_xboole_0)))) \Leftrightarrow \\ & (k4_zfmisc_1 X0 X1 X2 X3 \neq k1_xboole_0) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.k3_zfmisc_1 (k2_zfmisc_1 X0 X1) X2 X3 = k4_zfmisc_1 X0 X1 X2 X3 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(\neg(\neg r1_tarSKI X0 (k3_zfmisc_1 \\ & X0 X1 X2))) \wedge ((\neg r1_tarSKI X0 (k3_zfmisc_1 X1 X2 X0)) \wedge (\neg r1_tarSKI \\ & X0 (k3_zfmisc_1 X2 X0 X1)))) \Rightarrow (X0 = k1_xboole_0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \neg(X0 \neq k1_xboole_0) \wedge (\forall X1. \neg(X1 \in X0) \wedge (\forall X2. \\ & \forall X3. \forall X4. \forall X5. \neg((X2 \in X0) \vee (X3 \in X0)) \wedge (X1 = k6_xtuple_0 \\ & \quad X2 \ X3 \ X4 \ X5))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 \ X0 \ X1) \Rightarrow ((v1_xboole_0 \ X1) \vee (X0 \in X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & \quad X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge ((\neg v1_xboole_0 \ X3) \wedge \\ & \quad (m1_subset_1 \ X4 \ (k4_zfmisc_1 \ X0 \ X1 \ X2 \ X3)))))) \Rightarrow (k5_mcart_1 \ X0 \ X1 \\ & \quad X2 \ X3 \ X4 = k8_xtuple_0 \ X4) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & \quad X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge ((\neg v1_xboole_0 \ X3) \wedge \\ & \quad (m1_subset_1 \ X4 \ (k4_zfmisc_1 \ X0 \ X1 \ X2 \ X3)))))) \Rightarrow (k4_mcart_1 \ X0 \ X1 \\ & \quad X2 \ X3 \ X4 = k7_xtuple_0 \ X4) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (v3_xtuple_0 \ X0) \Rightarrow (k6_xtuple_0 \ (k7_xtuple_0 \ X0) \ (k8_xtuple_0 \ X0) \ (k5_xtuple_0 \ X0) \ (k2_xtuple_0 \ X0) = X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & \quad X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge ((\neg v1_xboole_0 \ X3) \wedge \\ & \quad (m1_subset_1 \ X4 \ (k4_zfmisc_1 \ X0 \ X1 \ X2 \ X3)))))) \Rightarrow (m1_subset_1 \ (k5_mcart_1 \\ & \quad X0 \ X1 \ X2 \ X3 \ X4) \ X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & \quad X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge ((\neg v1_xboole_0 \ X3) \wedge \\ & \quad (m1_subset_1 \ X4 \ (k4_zfmisc_1 \ X0 \ X1 \ X2 \ X3)))))) \Rightarrow (m1_subset_1 \ (k4_mcart_1 \\ & \quad X0 \ X1 \ X2 \ X3 \ X4) \ X0) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 \ X0) \wedge \\ & \quad ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge (\neg v1_xboole_0 \ X3)))) \Rightarrow \\ & \quad (\forall X4. (m1_subset_1 \ X4 \ (k4_zfmisc_1 \ X0 \ X1 \ X2 \ X3)) \Rightarrow (v3_xtuple_0 \\ & \quad \quad X4)) \end{aligned} \quad (14)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.(\neg(\neg r1_tarski\ X0\ (k4_zfmisc_1\ X0\ X1\ X2\ X3))\wedge((\neg r1_tarski\ X0\ (k4_zfmisc_1\ X1\ X2\ X3\ X0))\wedge(\neg r1_tarski\ X0\ (k4_zfmisc_1\ X2\ X3\ X0\ X1))\wedge(\neg r1_tarski\ X0\ (k4_zfmisc_1\ X3\ X0\ X1\ X2))))\Rightarrow(X0 = k1_xboole_0)$$