

t44_mcart_1

(TMWs3565BTeA7oNhMx8oqRBdRSYkbR3bkas)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v2_xtuple_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k3_mcart_1 X0 X1 X2 X3 = k2_xtuple_0 X3) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k2_mcart_1 X0 X1 X2 X3 = k5_xtuple_0 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k1_mcart_1 X0 X1 X2 X3 = k4_xtuple_0 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (v2_xtuple_0 X0) \Rightarrow (k3_xtuple_0 (k4_xtuple_0 X0) (k5_xtuple_0 X0) (k2_xtuple_0 X0) = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 \\ & X1) \wedge (\neg v1_xboole_0 X2))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)) \Rightarrow (v2_xtuple_0 X3)) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (k3_zfmisc_1 \\ X0 X1 X2)) \Rightarrow (X3 = k3_xtuple_0 (k1_mcart_1 X0 X1 X2 X3) (k2_mcart_1 \\ X0 X1 X2 X3) (k3_mcart_1 X0 X1 X2 X3)))))) \end{aligned}$$