

t66_mcart_1
(TMZXqt3AdWwrcR4uDdg6TiRjHh5zRtfcG3)

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 $k2_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)) \Rightarrow (X3 = k3_xtuple_0 (k1_mcart_1 X0 X1 X2 X3) (k2_mcart_1 \\ & X0 X1 X2 X3) (k3_mcart_1 X0 X1 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k3_mcart_1 X0 X1 X2 X3 = k2_xtuple_0 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k3_mcart_1 X0 X1 X2 X3) X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k2_mcart_1 X0 X1 X2 X3) X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k1_mcart_1 X0 X1 X2 X3) X0) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (\neg v1_xboole_0 \\ & X2) \Rightarrow (\forall X3. (\neg v1_xboole_0 X3) \Rightarrow (\forall X4. (m1_subset_1 \\ & X4 (k3_zfmisc_1 X1 X2 X3)) \Rightarrow ((\forall X5. (m1_subset_1 X5 X1) \Rightarrow (\forall X6. \\ & (m1_subset_1 X6 X2) \Rightarrow (\forall X7. (m1_subset_1 X7 X3) \Rightarrow ((X4 = k3_xtuple_0 \\ & X5 X6 X7) \Rightarrow (X0 = X6)))))) \Rightarrow (X0 = k2_mcart_1 X1 X2 X3 X4)))))) \end{aligned}$$