

t65_mcart_1 (TMdWU- Uhv2dNNT2nWYRqCfur8naQidNuPgjT)

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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. 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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (k2_mcart_1 X0 X1 X2 X3 = k5_xtuple_0 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k3_mcart_1 X0 X1 X2 X3) X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2)))))) \Rightarrow (m1_subset_1 (k2_mcart_1 X0 X1 X2 X3) X1) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge(m1_subset_1 X3 (k3_zfmisc_1 \\ & X0 X1 X2))))))\Rightarrow(m1_subset_1 (k1_mcart_1 X0 X1 X2 X3) X0) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(\neg v1_xboole_0 \\ & X2)\Rightarrow(\forall X3.(\neg v1_xboole_0 X3)\Rightarrow(\forall X4.(m1_subset_1 \\ & X4 (k3_zfmisc_1 X1 X2 X3))\Rightarrow((\forall X5.(m1_subset_1 X5 X1)\Rightarrow(\forall X6. \\ & (m1_subset_1 X6 X2)\Rightarrow(\forall X7.(m1_subset_1 X7 X3)\Rightarrow((X4 = k3_xtuple_0 \\ & X5 X6 X7)\Rightarrow(X0 = X5))))))\Rightarrow(X0 = k1_mcart_1 X1 X2 X3 X4)))) \end{aligned}$$