

t76_mcart_1
(TMUfBERMtMgdvqeYeqccT2oU2d7N2T3epLu)

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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 $k4_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(\neg v1_xboole_0 X3) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3)) \Rightarrow (X4 = k6_xtuple_0 \\ & (k4_mcart_1 X0 X1 X2 X3 X4) (k5_mcart_1 X0 X1 X2 X3 X4) (k6_mcart_1 \\ & X0 X1 X2 X3 X4) (k7_mcart_1 X0 X1 X2 X3 X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge ((\neg v1_xboole_0 X3) \wedge \\ & (m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3)))))) \Rightarrow (k6_mcart_1 X0 X1 \\ & X2 X3 X4 = k5_xtuple_0 X4) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge ((\neg v1_xboole_0 X3) \wedge \\ & (m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3)))))) \Rightarrow (m1_subset_1 (k7_mcart_1 \\ & X0 X1 X2 X3 X4) X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge ((\neg v1_xboole_0 X3) \wedge \\ & (m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3)))))) \Rightarrow (m1_subset_1 (k6_mcart_1 \\ & X0 X1 X2 X3 X4) X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0)\wedge((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge((\neg v1_xboole_0 X3)\wedge \\ & (m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3))))))\Rightarrow(m1_subset_1 (k5_mcart_1 \\ & X0 X1 X2 X3 X4) X1) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0)\wedge((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge((\neg v1_xboole_0 X3)\wedge \\ & (m1_subset_1 X4 (k4_zfmisc_1 X0 X1 X2 X3))))))\Rightarrow(m1_subset_1 (k4_mcart_1 \\ & X0 X1 X2 X3 X4) X0) \end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(\neg v1_xboole_0 \\ & X2)\Rightarrow(\forall X3.(\neg v1_xboole_0 X3)\Rightarrow(\forall X4.(\neg v1_xboole_0 \\ & X4)\Rightarrow(\forall X5.(m1_subset_1 X5 (k4_zfmisc_1 X1 X2 X3 X4))\Rightarrow((\forall X6. \\ & (m1_subset_1 X6 X1)\Rightarrow(\forall X7.(m1_subset_1 X7 X2)\Rightarrow(\forall X8. \\ & (m1_subset_1 X8 X3)\Rightarrow(\forall X9.(m1_subset_1 X9 X4)\Rightarrow((X5 = k6_xtuple_0 \\ & X6 X7 X8 X9)\Rightarrow(X0 = X7))))))\Rightarrow(X0 = k5_mcart_1 X1 X2 X3 X4 X5)))))) \end{aligned}$$