

t78\_mcart\_1 (TM-  
bcu8w67nQmWT3R68Wb9WemF9xrDy6d4qZ)

October 27, 2020

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  $k7\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k2\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. k4\_zfmisc\_1 X0 X1 X2 X3 = k2\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2) X3 \quad (1)$$

Assume the following.

$$\forall X0. \neg(X0 \neq k1\_xboole\_0) \wedge (\forall X1. \neg(X1 \in X0) \wedge (\forall X2. \forall X3. \forall X4. \forall X5. \neg((X2 \in X0) \vee (X3 \in X0)) \wedge (X1 = k6\_xtuple\_0 X2 X3 X4 X5))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge ((\neg v1\_xboole\_0 X3) \wedge (m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3)))))) \Rightarrow (k7\_mcart\_1 X0 X1 X2 X3 X4 = k2\_xtuple\_0 X4) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. k2\_xtuple\_0 (k6\_xtuple\_0 X0 X1 X2 X3) = X3 \quad (4)$$

Assume the following.

$$\exists X0. v1\_xboole\_0 X0 \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\neg(X0\neq k1\_xboole\_0)\wedge \\
& ((X1\neq k1\_xboole\_0)\wedge((X2\neq k1\_xboole\_0)\wedge((X3\neq k1\_xboole\_0)\wedge( \\
& \exists X4.(m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3))\wedge(\forall X5. \\
& (m1\_subset\_1 X5 X0)\Rightarrow(\forall X6.(m1\_subset\_1 X6 X1)\Rightarrow(\forall X7. \\
& (m1\_subset\_1 X7 X2)\Rightarrow(\forall X8.(m1\_subset\_1 X8 X3)\Rightarrow(X4\neq k6\_xtuple\_0 \\
& X5 X6 X7 X8))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0 \\
& X0)\wedge((\neg v1\_xboole\_0 X1)\wedge((\neg v1\_xboole\_0 X2)\wedge((\neg v1\_xboole\_0 X3)\wedge \\
& (m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3))))))\Rightarrow(m1\_subset\_1 (k7\_mcart\_1 \\
& X0 X1 X2 X3 X4) X3)
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0 \\
& X2)\Rightarrow(\forall X3.(\neg v1\_xboole\_0 X3)\Rightarrow(\forall X4.(\neg v1\_xboole\_0 \\
& X4)\Rightarrow(\forall X5.(m1\_subset\_1 X5 (k4\_zfmisc\_1 X1 X2 X3 X4))\Rightarrow((\forall X6. \\
& (m1\_subset\_1 X6 X1)\Rightarrow(\forall X7.(m1\_subset\_1 X7 X2)\Rightarrow(\forall X8. \\
& (m1\_subset\_1 X8 X3)\Rightarrow(\forall X9.(m1\_subset\_1 X9 X4)\Rightarrow((X5 = k6\_xtuple\_0 \\
& X6 X7 X8 X9)\Rightarrow(X0 = X9))))))\Rightarrow(X0 = k7\_mcart\_1 X1 X2 X3 X4 X5))))))
\end{aligned}$$