

## t13\_domain\_1

(TMNhBuag8uKtaRxjVx479ZTzBTEt7X7SY3h)

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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  $k4\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2. (\neg v1\_xboole\_0 \\
 & X2) \Rightarrow (\forall X3. (\neg v1\_xboole\_0 X3) \Rightarrow (\forall X4. (\neg v1\_xboole\_0 \\
 & X4) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (k4\_zfmisc\_1 X1 X2 X3 X4)) \Rightarrow ((\forall X6. \\
 & (m1\_subset\_1 X6 X1) \Rightarrow (\forall X7. (m1\_subset\_1 X7 X2) \Rightarrow (\forall X8. \\
 & (m1\_subset\_1 X8 X3) \Rightarrow (\forall X9. (m1\_subset\_1 X9 X4) \Rightarrow ((X5 = k6\_xtuple\_0 \\
 & X6 X7 X8 X9) \Rightarrow (X0 = X6)))))) \Rightarrow (X0 = k4\_mcart\_1 X1 X2 X3 X4 X5))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
 & \forall X6. \forall X7. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
 & ((\neg v1\_xboole\_0 X2) \wedge ((\neg v1\_xboole\_0 X3) \wedge ((m1\_subset\_1 X4 X0) \wedge \\
 & ((m1\_subset\_1 X5 X1) \wedge ((m1\_subset\_1 X6 X2) \wedge (m1\_subset\_1 X7 X3)))))) \Rightarrow \\
 & (k5\_domain\_1 X0 X1 X2 X3 X4 X5 X6 X7 = k6\_xtuple\_0 X4 X5 X6 X7)
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1\_xboole\_0 \\
 & X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge ((\neg v1\_xboole\_0 X3) \wedge \\
 & (m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3)))))) \Rightarrow (m1\_subset\_1 (k4\_mcart\_1 \\
 & X0 X1 X2 X3 X4) X0)
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\
& (\forall X2.(\neg v1\_xboole\_0 X2) \Rightarrow (\forall X3.(\neg v1\_xboole\_0 X3) \Rightarrow \\
& (\forall X4.(m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3)) \Rightarrow (\forall X5. \\
& (m1\_subset\_1 X5 X0) \Rightarrow ((X5 = k4\_mcart\_1 X0 X1 X2 X3 X4) \Leftrightarrow (\forall X6. \\
& \forall X7.\forall X8.\forall X9.(X4 = k6\_xtuple\_0 X6 X7 X8 X9) \Rightarrow \\
& (X5 = X6)))))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0 \\
& X2) \Rightarrow (\forall X3.(\neg v1\_xboole\_0 X3) \Rightarrow (\forall X4.(\neg v1\_xboole\_0 \\
& X4) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k4\_zfmisc\_1 X1 X2 X3 X4)) \Rightarrow ((X0 = \\
& k4\_mcart\_1 X1 X2 X3 X4 X5) \Leftrightarrow (\forall X6.(m1\_subset\_1 X6 X1) \Rightarrow (\forall X7. \\
& (m1\_subset\_1 X7 X2) \Rightarrow (\forall X8.(m1\_subset\_1 X8 X3) \Rightarrow (\forall X9. \\
& (m1\_subset\_1 X9 X4) \Rightarrow ((X5 = k5\_domain\_1 X1 X2 X3 X4 X6 X7 X8 X9) \Rightarrow (X0 = \\
& X6)))))))))))))
\end{aligned}$$