

# t17\_domain\_1 (TMLPmKaGBsQXPaVCWBEm- FgF9vS3kj982rsh)

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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  $k4\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k6\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1\_xboole\_0 X2) \Rightarrow (\forall X3.(\neg v1\_xboole\_0 X3) \Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3)) \Rightarrow (X4 = k6\_xtuple\_0 \\ & (k4\_mcart\_1 X0 X1 X2 X3 X4) (k5\_mcart\_1 X0 X1 X2 X3 X4) (k6\_mcart\_1 \\ & X0 X1 X2 X3 X4) (k7\_mcart\_1 X0 X1 X2 X3 X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.k4\_zfmisc\_1 X0 X1 \\ & X2 X3 = k2\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2) X3 \end{aligned} \quad (2)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1\_xboole\_0 X2) \Rightarrow (\forall X3.(\neg v1\_xboole\_0 X3) \Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 (k4\_zfmisc\_1 X0 X1 X2 X3)) \Rightarrow (\forall X5. \\ & (m1\_subset\_1 X5 (k4\_zfmisc\_1 X0 X1 X2 X3)) \Rightarrow (((k4\_mcart\_1 X0 X1 X2 \\ & X3 X4 = k4\_mcart\_1 X0 X1 X2 X3 X5) \wedge ((k5\_mcart\_1 X0 X1 X2 X3 X4 = k5\_mcart\_1 \\ & X0 X1 X2 X3 X5) \wedge ((k6\_mcart\_1 X0 X1 X2 X3 X4 = k6\_mcart\_1 X0 X1 X2 X3 X5) \wedge \\ & (k7\_mcart\_1 X0 X1 X2 X3 X4 = k7\_mcart\_1 X0 X1 X2 X3 X5)))))) \Rightarrow (X4 = X5)))))) \end{aligned}$$