

t64\_mcart\_1  
(TMa2uwMaeMCmQDfDZwtqqqMGLHCoPYx3o5y)

October 27, 2020

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. Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X3 (k3\_zfmisc\_1 \\ & X0 X1 X2)))))) \Rightarrow (k3\_mcart\_1 X0 X1 X2 X3 = k2\_xtuple\_0 X3) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X3 (k3\_zfmisc\_1 \\ & X0 X1 X2)))))) \Rightarrow (k2\_mcart\_1 X0 X1 X2 X3 = k5\_xtuple\_0 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X3 (k3\_zfmisc\_1 \\ & X0 X1 X2)))))) \Rightarrow (k1\_mcart\_1 X0 X1 X2 X3 = k4\_xtuple\_0 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k2\_xtuple\_0 (k3\_xtuple\_0 X0 X1 X2) = X2 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k5\_xtuple\_0 (k3\_xtuple\_0 X0 X1 X2) = X1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k4\_xtuple\_0 (k3\_xtuple\_0 X0 X1 X2) = X0 \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1\_xboole\_0 X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k3\_zfmisc\_1 \\ & X0 X1 X2)) \Rightarrow (\forall X4.\forall X5.\forall X6.(X3 = k3\_xtuple\_0 \\ X4 X5 X6) \Rightarrow ((k1\_mcart\_1 X0 X1 X2 X3 = X4) \wedge ((k2\_mcart\_1 X0 X1 X2 X3 = X5) \wedge \\ & (k3\_mcart\_1 X0 X1 X2 X3 = X6))))))) \end{aligned}$$