t6_domain_1 (TMJzvPh2WaVpoV1zB15GPy2kFzz3dn3CxhF)

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 $k1\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k3\_zfmisc\_1\ X0\ X1\ X2)) \Rightarrow (X3 = k3\_xtuple\_0\ (k1\_mcart\_1\ X0\ X1\ X2\ X3)\ (k2\_mcart\_1\ X0\ X1\ X2\ X3)\ (k3\_mcart\_1\ X0\ X1\ X2\ X3)))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.\ ((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge ((m1\_subset\_1\ X3\ X0) \wedge ((m1\_subset\_1\ X4\ X1) \wedge (m1\_subset\_1\ X5\ X2)))))) \Rightarrow (k4\_domain\_1\ X0\ X1\ X2\ X3\ X4\ X5 = k3\_xtuple\_0\ X3\ X4\ X5) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (m1\_subset\_1\ X3\ (k3\_zfmisc\_1\ X0\ X1\ X2))))) \Rightarrow (m1\_subset\_1\ (k3\_mcart\_1\ X0\ X1\ X2\ X3)\ X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (m1\_subset\_1\ X3\ (k3\_zfmisc\_1\ X0\ X1\ X2))))) \Rightarrow (m1\_subset\_1\ (k2\_mcart\_1\ X0\ X1\ X2\ X3)\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (m1\_subset\_1\ X3\ (k3\_zfmisc\_1\ X0\ X1\ X2))))) \Rightarrow (m1\_subset\_1\ (k1\_mcart\_1\ X0\ X1\ X2\ X3)\ X0) \tag{5}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k3\_zfmisc\_1\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow((X4 = k1\_mcart\_1\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X5.\forall X6.\forall X7.(X3 = k3\_xtuple\_0\ X5\ X6\ X7)\Rightarrow(X4 = X5))))))) \quad (6)$$

Theorem 1

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(\neg v1\_xboole\_0\ X3)\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k3\_zfmisc\_1\ X1\ X2\ X3))\Rightarrow((X0 = k1\_mcart\_1\ X1\ X2\ X3\ X4)\Leftrightarrow(\forall X5.(m1\_subset\_1\ X5\ X1)\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ X2)\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ X3)\Rightarrow((X4 = k4\_domain\_1\ X1\ X2\ X3\ X5\ X6\ X7)\Rightarrow(X0 = X5)))))))))$$