t27_partit1 (TMJgv-GadF6L1gLnpwPvBTb5SGcLB3nFWXof)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_partit1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_partit1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_partit1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_eqrel\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_eqrel\_1\ X2\ X0) \Rightarrow ((k4\_partit1\ X0\ X1 = k4\_partit1\ X0\ X2) \Rightarrow (X1 = X2)))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_eqrel\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_eqrel\_1\ X2\ X0) \Rightarrow (k4\_partit1\ X0\ (k2\_partit1\ X0\ X1\ X2) = k4\_eqrel\_1\ X0\ (k4\_partit1\ X0\ X1)\ (k4\_partit1\ X0\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_eqrel\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_eqrel\_1\ X2\ X0) \Rightarrow (k4\_partit1\ X0\ (k3\_partit1\ X0\ X1\ X2) = k5\_eqrel\_1\ X0\ (k4\_partit1\ X0\ X1)\ (k4\_partit1\ X0\ X2)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_relat\_2\ X1) \wedge ((v8\_relat\_2\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))) \Rightarrow (\forall X2.((v3\_relat\_2\ X2) \wedge ((v8\_relat\_2\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))) \Rightarrow (r2\_relset\_1\ X0\ X0\ (k4\_eqrel\_1\ X0\ X1\ (k5\_eqrel\_1\ X0\ X1\ X2))\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow ((r2\_relset\_1\ X0\ X1\ X2\ X3) \Leftrightarrow (X2 = X3)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(m1\_eqrel\_1\ X1\ X0))\Rightarrow ((v1\_partfun1\ (k4\_partit1\ X0\ X1)\ X0)\wedge((v3\_relat\_2\ (k4\_partit1\ X0\ X1))\wedge((v8\_relat\_2\ (k4\_partit1\ X0\ X1))\wedge(m1\_subset\_1\ (k4\_partit1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_eqrel\_1\ X1\ X0)\wedge(m1\_eqrel\_1\ X2\ X0)))\Rightarrow(m1\_eqrel\_1\ (k3\_partit1\ X0\ X1\ X2)\ X0) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_eqrel\_1\ X1\ X0)\wedge(m1\_eqrel\_1\ X2\ X0)))\Rightarrow(m1\_eqrel\_1\ (k2\_partit1\ X0\ X1\ X2)\ X0) \tag{8}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_eqrel\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_eqrel\_1\ X2\ X0)\Rightarrow(k2\_partit1\ X0\ X1\ (k3\_partit1\ X0\ X1\ X2) = X1)))$$