t41_eqrel_1 (TMRKyeEoSfWJrhn6LrdMdG7rZHjzHeSXk8L)

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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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_eqrel\_1\ X1\ X0) \Rightarrow (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge ((m1\_subset\_1\ X1\ X0) \wedge (m1\_eqrel\_1\ X2\ X0))) \Rightarrow (m1\_subset\_1\ (k11\_eqrel\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_eqrel\_1\ X2\ X0) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X0)) \Rightarrow ((X3 = k11\_eqrel\_1\ X0\ X1\ X2) \Leftrightarrow ((X1 \in X3) \wedge (X3 \in X2)))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \Rightarrow ((m1\_eqrel\_1\ X1\ X0) \Leftrightarrow ((k5\_setfam\_1\ X0\ X1 = X0) \wedge (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow ((X2 \in X1) \Rightarrow ((X2 \neq k1\_xboole\_0) \wedge (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\neg(X3 \in X1) \wedge ((X2 \neq X3) \wedge (\neg r1\_xboole\_0\ X2\ X3)))))))))) \tag{4}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_eqrel\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow ((\neg r1\_xboole\_0\ (k11\_eqrel\_1\ X0\ X2\ X1)\ (k11\_eqrel\_1\ X0\ X3\ X1)) \Rightarrow (k11\_eqrel\_1\ X0\ X2\ X1 = k11\_eqrel\_1\ X0\ X3\ X1)))))$$