t4_eqrel_1 (TMSD2bKjQ45HGbYzd3vPhcNuds35D9d5XpL)

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Let $v3\_relat\_2 : \iota \Rightarrow o$ be given. Let $k1\_eqrel\_1 : \iota \Rightarrow \iota$ 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 $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $r8\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski\ X0\ X1 \in k2\_zfmisc\_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_partfun1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))) \Rightarrow (k1\_relat\_1\ X1 = X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k2\_zfmisc\_1\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_relat\_2\ (k1\_eqrel\_1\ X0)) \wedge (v1\_partfun1\ (k1\_eqrel\_1\ X0)\ X0) \tag{4}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k1\_eqrel\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(r8\_relat\_2\ X0\ X1) \Leftrightarrow (\forall X2.\forall X3.\forall X4.((X2 \in X1) \wedge ((X3 \in X1) \wedge ((X4 \in X1) \wedge ((k4\_tarski\ X2\ X3 \in X0) \wedge (k4\_tarski\ X3\ X4 \in X0))))) \Rightarrow (k4\_tarski\ X2\ X4 \in X0))) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(r3\_relat\_2\ X0\ X1)\Leftrightarrow(\forall X2.\ \forall X3.((X2\in X1)\wedge((X3\in X1)\wedge(k4\_tarski\ X2\ X3\in X0)))\Rightarrow(k4\_tarski\ X3\ X2\in X0))) \tag{7}$$

Assume the following.

$$\forall X0.k1\_eqrel\_1\ X0 = k2\_zfmisc\_1\ X0\ X0 \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v8\_relat\_2\ X0)\Leftrightarrow(r8\_relat\_2\ X0\ (k1\_relat\_1\ X0))) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v3\_relat\_2\ X0)\Leftrightarrow(r3\_relat\_2\ X0\ (k1\_relat\_1\ X0))) \tag{10}$$

Theorem 1

$$\forall X0.(v3\_relat\_2\ (k1\_eqrel\_1\ X0))\wedge((v8\_relat\_2\ (k1\_eqrel\_1\ X0))\wedge((v1\_partfun1\ (k1\_eqrel\_1\ X0)\ X0)\wedge(m1\_subset\_1\ (k1\_eqrel\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))$$