l21_fomodel3 (TMLUEjQXzqUVSfifhVnnASyFN6Lt48xqW6j)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ 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 $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $k6\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1\_relat\_2\ X4) \wedge ((v3\_relat\_2\ X4) \wedge ((v8\_relat\_2\ X4) \wedge ((v1\_partfun1\ X4\ X0) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))) \Rightarrow (((X1 \in k6\_eqrel\_1\ X0\ X0\ X4\ X2) \wedge (X3 \in k6\_eqrel\_1\ X0\ X0\ X4\ X2)) \Rightarrow (k4\_tarski\ X1\ X3 \in X4)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_relat\_2\ X1) \wedge ((v8\_relat\_2\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))) \Rightarrow (k8\_eqrel\_1\ X0\ X1 = k7\_eqrel\_1\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_eqrel\_1\ X1\ X0)\Rightarrow(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))\Rightarrow(m1\_eqrel\_1\ (k8\_eqrel\_1\ X0\ X1)\ X0) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))\Rightarrow((X2 = k7\_eqrel\_1\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X0))\Rightarrow((X3 \in X2)\Leftrightarrow(\exists X4.(X4 \in X0)\wedge(X3 = k6\_eqrel\_1\ X0\ X0\ X1\ X4)))))) \tag{8}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v3\_relat\_2\ X0)\wedge(v8\_relat\_2\ X0)))\Rightarrow((v1\_relat\_1\ X0)\wedge(v1\_relat\_2\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{11}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_eqrel\_1\ X1\ X0)\Rightarrow(\neg v1\_xboole\_0\ X1)) \tag{12}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ X0)\wedge((v3\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))\Rightarrow(\forall X2.\forall X3.\forall X4.(m2\_subset\_1\ X4\ (k1\_zfmisc\_1\ X0)\ (k8\_eqrel\_1\ X0\ X1))\Rightarrow(((X2 \in X4)\wedge(X3 \in X4))\Rightarrow(k4\_tarski\ X2\ X3 \in X1))))$$