

l73_fomodel4

(TMZuE1b2MPFtps7LhRkKkohscGoHXnHoDMx4)

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Let $v6_struct.0 : \iota \Rightarrow o$ be given. Let $v11_fomodel1 : \iota \Rightarrow o$ be given. Let $l1_fomodel1 : \iota \Rightarrow o$ 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 $k9_setfam.1 : \iota \Rightarrow \iota$ be given. Let $k1_fomodel4 : \iota \Rightarrow \iota$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_fomodel4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $v2_fomodel4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole.0 : \iota$ be given. Let $m1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 \in k2_zfmisc.1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole.0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset.1 X1 (k1_zfmisc.1 X2)) \wedge (v1_xboole.0 X2)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 X2))) \Rightarrow (m1_subset.1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset.1 X0 X1) \Rightarrow ((v1_xboole.0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v6_struct_0 X1) \wedge ((v11_fomodel1 X1) \wedge \\ & (l1_fomodel1 X1))) \Rightarrow (\forall X2.(v2_fomodel4 X2 X1) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k9_setfam_1 (k1_fomodel4 \\ & X1)) (k1_fomodel4 X1)))) \Rightarrow ((X0 \in k1_funct_1 (k21_fomodel4 X1 X3) \\ & X2) \Leftrightarrow ((X0 \in k1_fomodel4 X1) \wedge (k4_tarski X2 X0 \in X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (10)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1) \wedge (m1_funct_2 \\ & X2 X0 X1)) \Rightarrow (\forall X3.(m2_funct_2 X3 X0 X1 X2) \Rightarrow ((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v6_struct_0 X0) \wedge ((v11_fomodel1 X0) \wedge \\ & (l1_fomodel1 X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k9_setfam_1 (k1_fomodel4 X0)) (k1_fomodel4 X0)))) \Rightarrow (m2_funct_2 \\ & (k21_fomodel4 X0 X1) (k9_setfam_1 (k1_fomodel4 X0)) (k9_setfam_1 \\ & (k1_fomodel4 X0)) (k9_funct_2 (k9_setfam_1 (k1_fomodel4 X0)) \\ & (k9_setfam_1 (k1_fomodel4 X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.\forall X2.((X1 \in k9_xtuple_0 X0)\Rightarrow((X2 = k1_funct_1 X0 X1)\Leftrightarrow(k4_tarski X1 X2 \in X0)))\wedge((\neg X1 \in k9_xtuple_0 X0)\Rightarrow((X2 = k1_funct_1 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v6_struct_0 X0)\wedge((v11_fomodel1 X0)\wedge(l1_fomodel1 X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_fomodel4 X0))))\Rightarrow(v2_fomodel4 X1 X0) \quad (19)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((\neg v6_struct_0 X2)\wedge((v11_fomodel1 X2)\wedge(l1_fomodel1 X2)))\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k9_setfam_1 (k1_fomodel4 X2)) (k1_fomodel4 X2))))\Rightarrow((X0 \in k1_funct_1 (k21_fomodel4 X2 X3) X1)\Leftrightarrow((X0 \in k1_fomodel4 X2)\wedge(k4_tarski X1 X0 \in X3))))$$