

l138_fomodel4 (TM- MAEy7oTrRV5hLErNDyiG5gwZ7eebxLPeT)

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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 $v4_fomodel2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k15_fomodel1 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k1_fomodel4 : \iota \Rightarrow \iota$ be given. Let $v6_fomodel4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k23_fomodel4 : \iota \Rightarrow \iota$ be given. Let $k33_fomodel4 : \iota \Rightarrow \iota$ be given. Let $v8_fomodel4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v14_fomodel4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k38_fomodel2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_fomodel2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_fomodel2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fomodel2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v6_struct_0 X1) \wedge ((v11_fomodel1 X1) \wedge \\ & (l1_fomodel1 X1))) \Rightarrow (\forall X2. ((v4_fomodel2 X2 X1) \wedge (m2_subset_1 \\ & X2 (k3_finseq_2 (k15_fomodel1 X1)) (k6_subset_1 (k3_finseq_2 \\ & (k15_fomodel1 X1)) (k1_tarski k1_xboole_0)))) \Rightarrow (\forall X3. (\\ & m1_subset_1 X3 (k1_zfmisc_1 (k9_funct_2 (k9_setfam_1 (k1_fomodel4 \\ & X1)) (k9_setfam_1 (k1_fomodel4 X1)))))) \Rightarrow (((v6_fomodel4 X3 X1) \wedge \\ & ((k23_fomodel4 X1 \in X3) \wedge ((k33_fomodel4 X1 \in X3) \wedge (v14_fomodel4 \\ & (k2_xboole_0 X0 (k6_domain_1 (k6_subset_1 (k3_finseq_2 (k15_fomodel1 \\ & X1)) (k1_tarski k1_xboole_0)) X2)) X1 X3)))) \Rightarrow (v8_fomodel4 (k38_fomodel2 \\ & X1 X2) X1 X3 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v6_struct_0 X0) \wedge ((v11_fomodel1 X0) \wedge (l1_fomodel1 \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k9_funct_2 (\\
& \quad k9_setfam_1 (k1_fomodel4 X0) (k9_setfam_1 (k1_fomodel4 X0)))))) \Rightarrow \\
& \quad (\forall X2.(v14_fomodel4 X2 X0 X1) \Leftrightarrow (\exists X3.((v4_fomodel2 \\
& \quad X3 X0) \wedge (m2_subset_1 X3 (k3_finseq_2 (k15_fomodel1 X0) (k6_subset_1 \\
& \quad (k3_finseq_2 (k15_fomodel1 X0) (k1_tarski k1_xboole_0)))))) \wedge \\
& \quad (\exists X4.((v4_fomodel2 X4 X0) \wedge (m2_subset_1 X4 (k3_finseq_2 \\
& \quad (k15_fomodel1 X0) (k6_subset_1 (k3_finseq_2 (k15_fomodel1 X0) \\
& \quad (k1_tarski k1_xboole_0)))))) \wedge ((v8_fomodel4 X3 X0 X1 X2) \wedge (v8_fomodel4 \\
& \quad (k30_fomodel2 X0 (k30_fomodel2 X0 (k31_fomodel2 X0 (k1_fomodel2 \\
& \quad X0)) X3) X4) X0 X1 X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v6_struct_0 X0) \wedge ((v11_fomodel1 X0) \wedge (l1_fomodel1 \\
& \quad X0))) \Rightarrow (\forall X1.(m2_subset_1 X1 (k3_finseq_2 (k15_fomodel1 \\
& \quad X0) (k6_subset_1 (k3_finseq_2 (k15_fomodel1 X0) (k1_tarski \\
& \quad k1_xboole_0)))))) \Rightarrow (k38_fomodel2 X0 X1 = k30_fomodel2 X0 (k30_fomodel2 \\
& \quad X0 (k31_fomodel2 X0 (k1_fomodel2 X0)) X1) X1))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v6_struct_0 X1) \wedge ((v11_fomodel1 X1) \wedge \\
& \quad (l1_fomodel1 X1))) \Rightarrow (\forall X2. ((v4_fomodel2 X2 X1) \wedge (m2_subset_1 \\
& \quad X2 (k3_finseq_2 (k15_fomodel1 X1) (k6_subset_1 (k3_finseq_2 \\
& \quad (k15_fomodel1 X1) (k1_tarski k1_xboole_0)))))) \Rightarrow (\forall X3. (\\
& \quad m1_subset_1 X3 (k1_zfmisc_1 (k9_funct_2 (k9_setfam_1 (k1_fomodel4 \\
& \quad X1) (k9_setfam_1 (k1_fomodel4 X1)))))) \Rightarrow (\neg (v6_fomodel4 X3 X1) \wedge \\
& \quad ((k23_fomodel4 X1 \in X3) \wedge ((k33_fomodel4 X1 \in X3) \wedge ((v8_fomodel4 \\
& \quad X2 X1 X3 X0) \wedge ((\neg v14_fomodel4 X0 X1 X3) \wedge (v14_fomodel4 (k2_xboole_0 \\
& \quad X0 (k6_domain_1 (k6_subset_1 (k3_finseq_2 (k15_fomodel1 X1) \\
& \quad (k1_tarski k1_xboole_0)) X2)) X1 X3))))))
\end{aligned}$$