

t23_modelc_2

(TMSv3NHCXkXA6xVjXstsHRhnAsZBKykWvf5)

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Let $v1_modelc_2 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_modelc_2 : \iota \Rightarrow o$ be given. Let $r1_modelc_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_modelc_2 : \iota \Rightarrow \iota$ be given. Let $k12_modelc_2 : \iota \Rightarrow \iota$ be given. Let $k5_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_modelc_2 : \iota \Rightarrow o$ be given. Let $v7_modelc_2 : \iota \Rightarrow o$ be given. Let $v8_modelc_2 : \iota \Rightarrow o$ be given. Let $k4_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\
 & \quad \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\
 & \quad \quad \forall X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \Rightarrow (\\
 & \quad \quad \quad (r1_modelc_2 X0 (k5_modelc_2 X1 X2)) \Leftrightarrow ((X0 = X1) \vee (X0 = X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\
 & \quad (\neg(\neg v4_modelc_2 X0) \wedge (\neg v5_modelc_2 X0) \wedge (\neg v7_modelc_2 X0) \wedge \\
 & \quad \quad (\neg v8_modelc_2 X0))) \Rightarrow (\forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 \\
 & \quad X1 k5_numbers)) \Rightarrow (((v4_modelc_2 X0) \Rightarrow ((X1 = k12_modelc_2 X0) \Leftrightarrow (\\
 & \quad \quad \exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge (\\
 & \quad \quad \quad k4_modelc_2 X2 X1 = X0)))) \wedge ((v5_modelc_2 X0) \Rightarrow ((X1 = k12_modelc_2 \\
 & \quad \quad X0) \Leftrightarrow (\exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge \\
 & \quad \quad \quad (k5_modelc_2 X2 X1 = X0)))) \wedge ((v7_modelc_2 X0) \Rightarrow ((X1 = k12_modelc_2 \\
 & \quad \quad X0) \Leftrightarrow (\exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge \\
 & \quad \quad \quad (k7_modelc_2 X2 X1 = X0)))) \wedge (\neg(\neg v4_modelc_2 X0) \wedge (\neg v5_modelc_2 \\
 & \quad \quad X0) \wedge (\neg v7_modelc_2 X0) \wedge (\neg(X1 = k12_modelc_2 X0) \Leftrightarrow (\exists X2. \\
 & \quad \quad \quad ((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge (k8_modelc_2 \\
 & \quad \quad \quad \quad X2 X1 = X0))))))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\
& (\neg(\neg v4_modelc_2 X0) \wedge (\neg v5_modelc_2 X0) \wedge (\neg v7_modelc_2 X0) \wedge \\
& (\neg v8_modelc_2 X0))) \Rightarrow (\forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 \\
& X1 k5_numbers)) \Rightarrow (((v4_modelc_2 X0) \Rightarrow ((X1 = k11_modelc_2 X0) \Leftrightarrow (\\
& \exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge (\\
& k4_modelc_2 X1 X2 = X0)))) \wedge ((v5_modelc_2 X0) \Rightarrow ((X1 = k11_modelc_2 \\
& X0) \Leftrightarrow (\exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge \\
& (k5_modelc_2 X1 X2 = X0)))) \wedge ((v7_modelc_2 X0) \Rightarrow ((X1 = k11_modelc_2 \\
& X0) \Leftrightarrow (\exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge \\
& (k7_modelc_2 X1 X2 = X0)))) \wedge (\neg(\neg v4_modelc_2 X0) \wedge (\neg v5_modelc_2 \\
& X0) \wedge (\neg v7_modelc_2 X0) \wedge (\neg(X1 = k11_modelc_2 X0) \Leftrightarrow (\exists X2. \\
& ((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \wedge (k8_modelc_2 \\
& X1 X2 = X0)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\
& (v5_modelc_2 X0) \Leftrightarrow (\exists X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 \\
& X1 k5_numbers)) \wedge (\exists X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 \\
& X2 k5_numbers)) \wedge (X0 = k5_modelc_2 X1 X2)))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\
& \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\
& (v5_modelc_2 X0) \Rightarrow ((r1_modelc_2 X1 X0) \Leftrightarrow ((X1 = k11_modelc_2 X0) \vee \\
& (X1 = k12_modelc_2 X0))))
\end{aligned}$$