

t31_modelc_2 (TMQe- gos5abh7n6rz61WjwYugVBDAgTwKQUq)

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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 $v4_modelc_2 : \iota \Rightarrow o$ be given. Let $v5_modelc_2 : \iota \Rightarrow o$ be given. Let $v7_modelc_2 : \iota \Rightarrow o$ be given. Let $v8_modelc_2 : \iota \Rightarrow o$ be given. Let $r2_modelc_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_modelc_2 : \iota \Rightarrow \iota$ be given. Let $k12_modelc_2 : \iota \Rightarrow \iota$ be given. Let $r1_modelc_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_modelc_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ (r1_modelc_2 X0 X1) \Rightarrow (r3_modelc_2 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ (v8_modelc_2 X0) \Rightarrow ((r1_modelc_2 X1 X0) \Leftrightarrow ((X1 = k11_modelc_2 X0) \vee \\ (X1 = k12_modelc_2 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ (v7_modelc_2 X0) \Rightarrow ((r1_modelc_2 X1 X0) \Leftrightarrow ((X1 = k11_modelc_2 X0) \vee \\ (X1 = k12_modelc_2 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ (v5_modelc_2 X0) \Rightarrow ((r1_modelc_2 X1 X0) \Leftrightarrow ((X1 = k11_modelc_2 X0) \vee \\ (X1 = k12_modelc_2 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ & (v4_modelc_2 X0) \Rightarrow ((r1_modelc_2 X1 X0) \Leftrightarrow ((X1 = k11_modelc_2 X0) \vee \\ & (X1 = k12_modelc_2 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m1_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & (v1_modelc_2 (k12_modelc_2 X0)) \wedge (m2_finseq_1 (k12_modelc_2 \\ & X0) k5_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m1_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & (v1_modelc_2 (k11_modelc_2 X0)) \wedge (m2_finseq_1 (k11_modelc_2 \\ & X0) k5_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ & (r3_modelc_2 X0 X1) \Leftrightarrow ((r2_modelc_2 X0 X1) \wedge (X0 \neq X1)))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & (\neg(\neg v4_modelc_2 X0) \wedge (\neg v5_modelc_2 X0) \wedge (\neg v7_modelc_2 X0) \wedge \\ & (\neg v8_modelc_2 X0))) \Rightarrow ((r2_modelc_2 (k11_modelc_2 X0) X0) \wedge (r2_modelc_2 \\ & (k12_modelc_2 X0) X0)) \end{aligned}$$