

t25_modelc.3

(TMLevpj9b2GZwwR984K5fz9XcHyDtXFRnP1)

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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 $v1_modelc.3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_modelc.3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k6_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_modelc.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k7_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_modelc.3 : \iota \Rightarrow \iota$ be given. Let $k3_modelc.3 : \iota \Rightarrow \iota$ be given. Let $k2_modelc.3 : \iota \Rightarrow \iota$ be given. Let $k4_modelc.3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 (k2_xboole.0 X0 X1) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_modelc.2 X0) \wedge (m2_finseq.1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1. (l1_modelc.3 X1 X0) \Rightarrow (\forall X2. (l1_modelc.3 X2 X0) \Rightarrow \\ & ((r4_modelc.3 X0 X1 X2) \Leftrightarrow ((r2_modelc.3 X0 X1 X2) \vee (r3_modelc.3 X0 \\ & \quad X1 X2)))))) \tag{3} \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_modelc.2 X0) \wedge (m2_finseq.1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1. (l1_modelc.3 X1 X0) \Rightarrow (\forall X2. (l1_modelc.3 X2 X0) \Rightarrow \\ & ((r3_modelc.3 X0 X1 X2) \Leftrightarrow (\exists X3. ((v1_modelc.2 X3) \wedge (m2_finseq.1 \\ & X3 k5_numbers)) \wedge ((X3 \in u2_modelc.3 X0 X1) \wedge ((\neg(\neg v5_modelc.2 X3) \wedge \\ & ((\neg v7_modelc.2 X3) \wedge (\neg v8_modelc.2 X3)))) \wedge (X2 = k6_modelc.3 X0 X1 \\ & \quad X3)))))) \tag{4} \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(l1_modelc_3 X1 X0) \Rightarrow (\forall X2.(l1_modelc_3 X2 X0) \Rightarrow \\ & \quad ((r2_modelc_3 X0 X1 X2) \Leftrightarrow (\exists X3.((v1_modelc_2 X3) \wedge (m2_finseq_1 \\ & \quad X3 k5_numbers)) \wedge ((X3 \in u2_modelc_3 X0 X1) \wedge (X2 = k5_modelc_3 X0 X1 \\ & \quad X3)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(l1_modelc_3 X1 X0) \Rightarrow (\forall X2.((v1_modelc_2 X2) \wedge \\ & \quad (m2_finseq_1 X2 k5_numbers)) \Rightarrow ((X2 \in u2_modelc_3 X0 X1) \Rightarrow (\forall X3. \\ & \quad ((v1_modelc_3 X3 X0) \wedge (l1_modelc_3 X3 X0)) \Rightarrow ((X3 = k6_modelc_3 X0 \\ & \quad X1 X2) \Leftrightarrow ((u1_modelc_3 X0 X3 = k2_xboole_0 (u1_modelc_3 X0 X1) (k1_tarski \\ & \quad X2)) \wedge ((u2_modelc_3 X0 X3 = k2_xboole_0 (k7_subset_1 (k1_modelc_3 \\ & \quad X0) (u2_modelc_3 X0 X1) (k1_tarski X2)) (k7_subset_1 (k1_modelc_3 \\ & \quad X2) (k3_modelc_3 X2) (u1_modelc_3 X0 X1))) \wedge (u3_modelc_3 X0 X3 = \\ & \quad u3_modelc_3 X0 X1)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(l1_modelc_3 X1 X0) \Rightarrow (\forall X2.((v1_modelc_2 X2) \wedge \\ & \quad (m2_finseq_1 X2 k5_numbers)) \Rightarrow ((X2 \in u2_modelc_3 X0 X1) \Rightarrow (\forall X3. \\ & \quad ((v1_modelc_3 X3 X0) \wedge (l1_modelc_3 X3 X0)) \Rightarrow ((X3 = k5_modelc_3 X0 \\ & \quad X1 X2) \Leftrightarrow ((u1_modelc_3 X0 X3 = k2_xboole_0 (u1_modelc_3 X0 X1) (k1_tarski \\ & \quad X2)) \wedge ((u2_modelc_3 X0 X3 = k2_xboole_0 (k7_subset_1 (k1_modelc_3 \\ & \quad X0) (u2_modelc_3 X0 X1) (k1_tarski X2)) (k7_subset_1 (k1_modelc_3 \\ & \quad X2) (k2_modelc_3 X2) (u1_modelc_3 X0 X1))) \wedge (u3_modelc_3 X0 X3 = \\ & \quad k2_xboole_0 (u3_modelc_3 X0 X1) (k4_modelc_3 X2)))))) \end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((v1_modelc_3 X1 X0) \wedge (l1_modelc_3 X1 X0)) \Rightarrow (\forall X2. \\ & \quad ((v1_modelc_3 X2 X0) \wedge (l1_modelc_3 X2 X0)) \Rightarrow ((r4_modelc_3 X0 X2 \\ & \quad X1) \Rightarrow ((r1_tarski (u1_modelc_3 X0 X2) (u1_modelc_3 X0 X1)) \wedge (r1_tarski \\ & \quad (u3_modelc_3 X0 X2) (u3_modelc_3 X0 X1)))))) \end{aligned}$$