

t28_modelc_3
(TMNBiNGnrRpW45mKSeNr5tq8vJ7ejfioMud)

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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 $u1_modelc_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_modelc_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ 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 $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_modelc_3 : \iota \Rightarrow \iota$ be given. Let $k3_modelc_3 : \iota \Rightarrow \iota$ be given. Let $u3_modelc_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_modelc_3 : \iota \Rightarrow \iota$ be given. Let $k4_modelc_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X0 \in k2_xboole_0 \ X2 \ (k1_tarski \ X1)) \Leftrightarrow ((X0 \in X2) \vee (X0 = X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_modelc_2 \ X0) \wedge (m2_finseq_1 \ X0 \ k5_numbers)) \Rightarrow (\\ \forall X1. (l1_modelc_3 \ X1 \ X0) \Rightarrow (\forall X2. (l1_modelc_3 \ X2 \ X0) \Rightarrow \\ ((r4_modelc_3 \ X0 \ X1 \ X2) \Leftrightarrow ((r2_modelc_3 \ X0 \ X1 \ X2) \vee (r3_modelc_3 \ X0 \\ X1 \ X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_modelc_2 \ X0) \wedge (m2_finseq_1 \ X0 \ k5_numbers)) \Rightarrow (\\ \forall X1. (l1_modelc_3 \ X1 \ X0) \Rightarrow (\forall X2. (l1_modelc_3 \ X2 \ X0) \Rightarrow \\ ((r3_modelc_3 \ X0 \ X1 \ X2) \Leftrightarrow (\exists X3. ((v1_modelc_2 \ X3) \wedge (m2_finseq_1 \\ X3 \ k5_numbers)) \wedge ((X3 \in u2_modelc_3 \ X0 \ X1) \wedge ((\neg(\neg v5_modelc_2 \ X3) \wedge \\ (\neg v7_modelc_2 \ X3) \wedge (\neg v8_modelc_2 \ X3)))) \wedge (X2 = k6_modelc_3 \ X0 \ X1 \\ X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(l1_modelc_3 X1 X0) \Rightarrow (\forall X2.(l1_modelc_3 X2 X0) \Rightarrow \\ & \quad ((r2_modelc_3 X0 X1 X2) \Leftrightarrow (\exists X3.((v1_modelc_2 X3) \wedge (m2_finseq_1 \\ & \quad X3 k5_numbers)) \wedge ((X3 \in u2_modelc_3 X0 X1) \wedge (X2 = k5_modelc_3 X0 X1 \\ & \quad X3)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(l1_modelc_3 X1 X0) \Rightarrow (\forall X2.(l1_modelc_3 X2 X0) \Rightarrow \\ & \quad (\forall X3.((v1_modelc_2 X3) \wedge (m2_finseq_1 X3 k5_numbers)) \Rightarrow \\ & \quad ((r1_modelc_3 X0 X1 X2 X3) \Leftrightarrow ((X3 \in u2_modelc_3 X0 X1) \wedge ((X2 = k5_modelc_3 \\ & \quad X0 X1 X3) \vee ((\neg(\neg v5_modelc_2 X3) \wedge ((\neg v7_modelc_2 X3) \wedge (\neg v8_modelc_2 \\ & \quad X3)))) \wedge (X2 = k6_modelc_3 X0 X1 X3)))))) \end{aligned} \tag{5}$$

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

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ & \quad \forall X2.((v1_modelc_3 X2 X1) \wedge (l1_modelc_3 X2 X1)) \Rightarrow (\forall X3. \\ & \quad ((v1_modelc_3 X3 X1) \wedge (l1_modelc_3 X3 X1)) \Rightarrow (((r4_modelc_3 X1 X3 \\ & \quad X2) \wedge (X0 \in u1_modelc_3 X1 X2)) \Rightarrow ((X0 \in u1_modelc_3 X1 X3) \vee (r1_modelc_3 \\ & \quad X1 X3 X2 X0)))))) \end{aligned}$$