

t13_modelc_2

(TMPm5L9w5rSPcNYcH1RQCdTPKp2jksnSLhD)

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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 $r1_modelc_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_modelc_2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k6_modelc_2 : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k7_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $k8_modelc_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_5 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & \quad X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 \\ & \quad X2)))) \Rightarrow (((k7_finseq_1 X0 X1 = k7_finseq_1 X2 X1) \vee (k7_finseq_1 X1 \\ & \quad X0 = k7_finseq_1 X1 X2)) \Rightarrow (X0 = X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 \ k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 \ k5_numbers)) \Rightarrow (\\ & \quad (k1_funct_1 (k3_modelc_2 X0) \ np_1 = k6_numbers) \wedge ((k1_funct_1 \\ & \quad (k4_modelc_2 X0 X1) \ np_1 = np_1) \wedge ((k1_funct_1 (k5_modelc_2 X0 \\ & \quad X1) \ np_1 = np_2) \wedge ((k1_funct_1 (k6_modelc_2 X0) \ np_1 = np_3) \wedge \\ & \quad ((k1_funct_1 (k7_modelc_2 X0 X1) \ np_1 = np_4) \wedge (k1_funct_1 (k8_modelc_2 \\ & \quad X0 X1) \ np_1 = np_5)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\neg v1_xboole_0 \ np_5 \tag{4}$$

Assume the following.

$$\neg v1_xboole_0 \ np_4 \tag{5}$$

Assume the following.

$$\neg v1_xboole_0 \ np_3 \tag{6}$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \tag{7}$$

Assume the following.

$$\neg v1_xboole_0 \ np_1 \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 \ X1 \ X0) \Leftrightarrow (m1_finseq_1 \ X1 \ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 \ X1 \ X0) \wedge (m1_finseq_1 \ X2 \ X0)) \Rightarrow (k8_finseq_1 \ X0 \ X1 \ X2 = k7_finseq_1 \ X1 \ X2) \tag{10}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{11}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 \ X0) \wedge (m1_subset_1 \ X1 \ X0)) \Rightarrow (k12_finseq_1 \ X0 \ X1 = k5_finseq_1 \ X1) \tag{13}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \tag{14}$$

Assume the following.

$$\forall X0.((v1_modelc_2 \ X0) \wedge (m1_finseq_1 \ X0 \ k5_numbers)) \Rightarrow (v1_modelc_2 \ (k3_modelc_2 \ X0)) \tag{15}$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 \ X1 \ X0) \Rightarrow ((v1_relat_1 \ X1) \wedge (v1_funct_1 \ X1) \wedge (v1_finseq_1 \ X1)) \tag{17}$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k5_numbers) \Rightarrow (m2_finseq_1 (k3_modelc_2 X0) k5_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (19)$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 k5_numbers) \Rightarrow (k3_modelc_2 X0 = k8_finseq_1 k5_numbers (k12_finseq_1 k5_numbers k6_numbers) X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ & \quad (r1_modelc_2 X0 X1) \Leftrightarrow (\neg (X1 \neq k3_modelc_2 X0) \wedge ((X1 \neq k6_modelc_2 \\ & \quad X0) \wedge (\forall X2.((v1_modelc_2 X2) \wedge (m2_finseq_1 X2 k5_numbers)) \Rightarrow \\ & \quad ((X1 \neq k4_modelc_2 X0 X2) \wedge ((X1 \neq k4_modelc_2 X2 X0) \wedge ((X1 \neq k5_modelc_2 \\ & \quad X0 X2) \wedge ((X1 \neq k5_modelc_2 X2 X0) \wedge ((X1 \neq k7_modelc_2 X0 X2) \wedge ((X1 \neq \\ & \quad k7_modelc_2 X2 X0) \wedge ((X1 \neq k8_modelc_2 X0 X2) \wedge (X1 \neq k8_modelc_2 X2 \\ & \quad X0))))))))))))) \end{aligned} \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_modelc_2 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((v1_modelc_2 X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\\ & \quad (r1_modelc_2 X0 (k3_modelc_2 X1)) \Leftrightarrow (X0 = X1)) \end{aligned}$$