

t19_modelc_1 (TMH-
JeyZZe6oPd8yqgj2xGS84ZWEY7PXLXKD)

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Let $v1_modelc_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_modelc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_modelc_1 : \iota$ be given. Let $u3_modelc_1 : \iota \Rightarrow \iota$ be given. Let $k48_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_modelc_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_modelc_1 : \iota \Rightarrow o$ be given. Let $l2_modelc_1 : \iota \Rightarrow o$ be given. Let $k24_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_modelc_1 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.((\neg v2_struct_0 X1) \wedge ((v10_modelc_1 X1) \wedge (l2_modelc_1 \\ & \quad X1))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k18_modelc_1 \\ & \quad (u3_modelc_1 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad k18_modelc_1 (u3_modelc_1 X1)))))) \Rightarrow (k24_modelc_1 X1 X2 (k7_modelc_1 \\ & \quad X0) = k3_robbins1 X1 (k24_modelc_1 X1 X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 X0) \wedge \\ & \quad (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 X0) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 \\ & \quad X3 (k1_zfmisc_1 (k30_modelc_1 X0)))) \Rightarrow (\forall X4.(m1_subset_1 \\ & \quad X4 (u1_struct_0 (k48_modelc_1 X0 X1 X3))) \Rightarrow ((r3_modelc_1 X0 X1 X3 \\ & \quad X2 (k3_robbins1 (k48_modelc_1 X0 X1 X3) X4)) \Leftrightarrow (\neg r3_modelc_1 X0 X1 \\ & \quad X3 X2 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\forall X0.((v1_modelc_1 X0) \wedge (m1_finseq_1 X0 k5_numbers)) \Rightarrow (v1_modelc_1 (k7_modelc_1 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_partfun1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \wedge ((\\ & \neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))))) \Rightarrow ((\neg v2_struct_0 (k48_modelc_1 X0 X1 X2)) \wedge (v10_modelc_1 \\ & (k48_modelc_1 X0 X1 X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. (m1_finseq_1 X0 k5_numbers) \Rightarrow (m2_finseq_1 (k7_modelc_1 X0) k5_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_partfun1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \wedge ((\\ & \neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))))) \Rightarrow (l2_modelc_1 (k48_modelc_1 X0 X1 X2)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_modelc_1 \\ & X0) \wedge (l2_modelc_1 X0))) \wedge (((v1_funct_1 X1) \wedge (v1_funct_2 X1 k18_modelc_1 \\ & (u3_modelc_1 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k18_modelc_1 (u3_modelc_1 X0)))))) \wedge ((v1_modelc_1 X2) \wedge (m1_finseq_1 \\ & X2 k5_numbers))) \Rightarrow (m1_subset_1 (k24_modelc_1 X0 X1 X2) (u1_struct_0 \\ & X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k18_modelc_1 \\ & (u3_modelc_1 (k48_modelc_1 X0 X1 X2))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k18_modelc_1 (u3_modelc_1 (k48_modelc_1 X0 X1 X2)))))) \Rightarrow \\ & (\forall X4. (m1_subset_1 X4 X0) \Rightarrow (\forall X5. ((v1_modelc_1 X5) \wedge \\ & (m2_finseq_1 X5 k5_numbers)) \Rightarrow ((r4_modelc_1 X0 X1 X2 X3 X4 X5) \Leftrightarrow (\\ & r3_modelc_1 X0 X1 X2 X4 (k24_modelc_1 (k48_modelc_1 X0 X1 X2) X3 X5)))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_modelc_1 X0) \wedge (m2_finseq_1 X0 k5_numbers)) \Rightarrow (\\ & \quad \forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\forall X2.((v1_partfun1 X2 X1) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X1)))) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 X1) \Rightarrow (\forall X4.((\neg v1_xboole_0 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k30_modelc_1 X1)))) \Rightarrow (\forall X5.((v1_funct_1 \\ & X5) \wedge ((v1_funct_2 X5 k18_modelc_1 (u3_modelc_1 (k48_modelc_1 \\ & X1 X2 X4))) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k18_modelc_1 \\ & (u3_modelc_1 (k48_modelc_1 X1 X2 X4))))))) \Rightarrow ((r4_modelc_1 X1 X2 \\ & X4 X5 X3 (k7_modelc_1 X0)) \Leftrightarrow (\neg r4_modelc_1 X1 X2 X4 X5 X3 X0)))))) \end{aligned}$$