

t41_modelc_1 (TMWnH-
PRaC4YkwEZ1nr4DRuBbsvRReE2Hhrq)

October 27, 2020

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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k48_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k53_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_modelc_1 : \iota \Rightarrow o$ 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 $l2_modelc_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 X0) \wedge \\
 & \quad (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\
 & \quad ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\
 & \quad \quad X0)))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 (k48_modelc_1 \\
 & \quad \quad X0 X1 X2)))) \Rightarrow (\forall X4. (m1_subset_1 X4 X0) \Rightarrow (\neg (r3_modelc_1 X0 \\
 & \quad \quad X1 X2 X4 X3) \wedge ((\forall X5. (m1_subset_1 X5 X0) \Rightarrow ((r3_modelc_1 X0 \\
 & \quad \quad X1 X2 X5 X3) \Rightarrow (r3_modelc_1 X0 X1 X2 X5 (k25_modelc_1 (k48_modelc_1 \\
 & \quad \quad X0 X1 X2) X3)))) \wedge (\forall X5. (m1_modelc_1 X5 X0 X1) \Rightarrow (\neg (k3_funct_2 \\
 & \quad \quad k5_numbers X0 X5 k6_numbers = X4) \wedge (\forall X6. (m1_subset_1 X6 k5_numbers) \Rightarrow \\
 & \quad \quad (r3_modelc_1 X0 X1 X2 (k3_funct_2 k5_numbers X0 X5 X6) X3)))))))))) \\
 & \hspace{15em} (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 X0) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 X0) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k30_modelc_1 X0)))) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 (k48_modelc_1 X0 X1 X3))) \Rightarrow ((r3_modelc_1 X0 X1 X3 \\
& X2 (k26_modelc_1 (k48_modelc_1 X0 X1 X3) X4) \Leftrightarrow (\exists X5.(m1_modelc_1 \\
& X5 X0 X1) \wedge ((k3_funct_2 k5_numbers X0 X5 k6_numbers = X2) \wedge (\forall X6. \\
& (m1_subset_1 X6 k5_numbers) \Rightarrow (r3_modelc_1 X0 X1 X3 (k3_funct_2 \\
& k5_numbers X0 X5 X6) X4)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 X0) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 X0) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k30_modelc_1 X0)))) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 (k48_modelc_1 X0 X1 X3))) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 (u1_struct_0 (k48_modelc_1 X0 X1 X3))) \Rightarrow ((r3_modelc_1 X0 X1 X3 \\
& X2 (k2_lattices (k48_modelc_1 X0 X1 X3) X4 X5) \Leftrightarrow ((r3_modelc_1 X0 \\
& X1 X3 X2 X4) \wedge (r3_modelc_1 X0 X1 X3 X2 X5)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{4}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{5}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((v1_partfun1 \\
& X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \wedge ((\\
& \neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\
& X0)))))) \Rightarrow ((\neg v2_struct_0 (k48_modelc_1 X0 X1 X2)) \wedge (v10_modelc_1 \\
& (k48_modelc_1 X0 X1 X2)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_partfun1 X1 X0) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\
& (m1_modelc_1 X2 X0 X1) \Rightarrow ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\
& X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_partfun1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \wedge ((\\ & \neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))))) \Rightarrow (l2_modelc_1 (k48_modelc_1 X0 X1 X2)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (\\ & k3_funct_2 X0 X1 X2 X3) X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_modelc_1 X0) \wedge \\ & (l2_modelc_1 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 \\ & (k25_modelc_1 X0 X1) (u1_struct_0 X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 (k48_modelc_1 \\ & X0 X1 X2))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 (k48_modelc_1 \\ & X0 X1 X2))) \Rightarrow (k53_modelc_1 X0 X1 X2 X3 X4 = k2_lattices (k48_modelc_1 \\ & X0 X1 X2) X3 (k25_modelc_1 (k48_modelc_1 X0 X1 X2) X4)))))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0)))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 (k48_modelc_1 \\ & X0 X1 X2))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 (k48_modelc_1 \\ & X0 X1 X2))) \Rightarrow ((\forall X5. (m1_subset_1 X5 X0) \Rightarrow ((r3_modelc_1 X0 \\ & X1 X2 X5 X4) \Leftrightarrow (r3_modelc_1 X0 X1 X2 X5 (k53_modelc_1 X0 X1 X2 X3 X4)))) \Rightarrow \\ & (\forall X5. (m1_subset_1 X5 X0) \Rightarrow ((r3_modelc_1 X0 X1 X2 X5 X4) \Rightarrow (\\ & r3_modelc_1 X0 X1 X2 X5 (k26_modelc_1 (k48_modelc_1 X0 X1 X2) X3)))))) \end{aligned}$$