

l134_modelc_1 (TMPE- FosgW6nrkavp7HVfUA9xgFWq6WXx5yw)

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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 $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_margrel1 : \iota$ be given. Let $k31_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $g2_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_modelc_1 : \iota \Rightarrow o$ be given. Let $k44_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k41_modelc_1 : \iota \Rightarrow \iota$ be given. Let $k39_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k36_modelc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k33_modelc_1 : \iota \Rightarrow \iota$ be given. Let $v9_modelc_1 : \iota \Rightarrow o$ be given. Let $k1_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $u3_modelc_1 : \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $u1_robbins1 : \iota \Rightarrow \iota$ be given. Let $u4_modelc_1 : \iota \Rightarrow \iota$ be given. Let $u5_modelc_1 : \iota \Rightarrow \iota$ be given. Let $u6_modelc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.(((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(((v1_funct_1 \\
& X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\wedge(((v1_funct_1 X3)\wedge(\\
& (v1_funct_2 X3 X0 X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0))))))\wedge(((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X0)\wedge(m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\wedge(((v1_funct_1 X5)\wedge((\\
& v1_funct_2 X5 X0 X0)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0))))))\wedge(((v1_funct_1 X6)\wedge((v1_funct_2 X6 (k2_zfmisc_1 X0 X0) \\
& X0)\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 \\
& X0) X0)))))))))\Rightarrow(\forall X7.\forall X8.\forall X9.\forall X10. \\
& \forall X11.\forall X12.\forall X13.(g2_modelc_1 X0 X1 X2 X3 X4 \\
& X5 X6 = g2_modelc_1 X7 X8 X9 X10 X11 X12 X13)\Rightarrow((X0 = X7)\wedge((X1 = X8)\wedge(\\
& (X2 = X9)\wedge((X3 = X10)\wedge((X4 = X11)\wedge((X5 = X12)\wedge(X6 = X13)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_partfun1 \\
& X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\wedge((\\
& \neg v1_xboole_0 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\
& X0))))))\Rightarrow(l2_modelc_1 (k48_modelc_1 X0 X1 X2))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_partfun1 X1 X0)\wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((v1_funct_1 \\
& (k44_modelc_1 X0 X1))\wedge((v1_funct_2 (k44_modelc_1 X0 X1) (k2_zfmisc_1 \\
& (k30_modelc_1 X0) (k30_modelc_1 X0)) (k30_modelc_1 X0))\wedge(m1_subset_1 \\
& (k44_modelc_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (\\
& k30_modelc_1 X0) (k30_modelc_1 X0)) (k30_modelc_1 X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k41_modelc_1 X0))\wedge \\
& ((v1_funct_2 (k41_modelc_1 X0) (k2_zfmisc_1 (k30_modelc_1 X0) \\
& (k30_modelc_1 X0)) (k30_modelc_1 X0))\wedge(m1_subset_1 (k41_modelc_1 \\
& X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k30_modelc_1 X0) \\
& (k30_modelc_1 X0)) (k30_modelc_1 X0))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_partfun1 X1 X0)\wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((v1_funct_1 \\
& (k39_modelc_1 X0 X1))\wedge((v1_funct_2 (k39_modelc_1 X0 X1) (k30_modelc_1 \\
& X0) (k30_modelc_1 X0))\wedge(m1_subset_1 (k39_modelc_1 X0 X1) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k30_modelc_1 X0) (k30_modelc_1 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_partfun1 X1 X0)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\Rightarrow((v1_funct_1 \\ & (k36_modelc_1 X0 X1))\wedge((v1_funct_2 (k36_modelc_1 X0 X1) (k30_modelc_1 \\ & X0) (k30_modelc_1 X0))\wedge(m1_subset_1 (k36_modelc_1 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k30_modelc_1 X0) (k30_modelc_1 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k33_modelc_1 X0))\wedge \\ & ((v1_funct_2 (k33_modelc_1 X0) (k30_modelc_1 X0) (k30_modelc_1 \\ & X0))\wedge(m1_subset_1 (k33_modelc_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k30_modelc_1 X0) (k30_modelc_1 X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k31_modelc_1 \\ & X0 X1))\wedge((v1_funct_2 (k31_modelc_1 X0 X1) X0 k6_margrel1)\wedge(m1_subset_1 \\ & (k31_modelc_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge(((v1_funct_1 X3)\wedge(\\ & (v1_funct_2 X3 X0 X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0))))\wedge(((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X0)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\wedge(((v1_funct_1 X5)\wedge(\\ & v1_funct_2 X5 X0 X0)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0))))\wedge((v1_funct_1 X6)\wedge((v1_funct_2 X6 (k2_zfmisc_1 X0 X0) \\ & X0)\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 \\ & X0) X0))))))))\Rightarrow((v9_modelc_1 (g2_modelc_1 X0 X1 X2 X3 X4 X5 X6))\wedge \\ & (l2_modelc_1 (g2_modelc_1 X0 X1 X2 X3 X4 X5 X6))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_partfun1 X1 X0)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\Rightarrow(\forall X2. \\ & ((\neg v1_xboole_0 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ & X0))))\Rightarrow(k48_modelc_1 X0 X1 X2 = g2_modelc_1 (k30_modelc_1 X0) X2 \\ & (k41_modelc_1 X0) (k33_modelc_1 X0) (k36_modelc_1 X0 X1) (k39_modelc_1 \\ & X0 X1) (k44_modelc_1 X0 X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((X1 \in k30_modelc_1 \\ X0) \Rightarrow (k31_modelc_1 X0 X1 = X1)) \wedge ((\neg X1 \in k30_modelc_1 X0) \Rightarrow (k31_modelc_1 \\ X0 X1 = k1_margrel1 k6_margrel1 X0 k7_margrel1))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0) \Rightarrow (v1_xboole_0 X1))) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_modelc_1 X0) \Rightarrow ((v9_modelc_1 X0) \Rightarrow (X0 = g2_modelc_1 \\ (u1_struct_0 X0) (u3_modelc_1 X0) (u1_lattices X0) (u1_robbins1 \\ X0) (u4_modelc_1 X0) (u5_modelc_1 X0) (u6_modelc_1 X0))) \end{aligned} \quad (15)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 X0) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (\forall X2. \\ ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k30_modelc_1 \\ X0)))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k48_modelc_1 \\ X0 X1 X2))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k48_modelc_1 \\ X0 X1 X2))) \Rightarrow ((r2_funct_2 X0 k6_margrel1 (k31_modelc_1 X0 X3) (k31_modelc_1 \\ X0 X4)) \Rightarrow (X3 = X4)))))) \end{aligned}$$