

t118_group_9
(TMM4wKMR8iZNdvuyq6WgmCy53YjzyPjcBDX)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_group_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k21_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\
& (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\
& \forall X2. ((v8_group_9 X2 X0 X1) \wedge (m2_finseq_1 X2 (k6_group_9 \\
& X0 X1))) \Rightarrow (\forall X3. ((v8_group_9 X3 X0 X1) \wedge (m2_finseq_1 X3 (k6_group_9 \\
& X0 X1))) \Rightarrow (\neg(\neg r1_xxreal_0 (k3_finseq_1 X2) np_1) \wedge ((\neg r1_xxreal_0 \\
& (k3_finseq_1 X3) np_1) \wedge (\neg r5_group_9 X0 X1 X1 (k21_group_9 X0 X1 \\
& X2 X3) (k21_group_9 X0 X1 X3 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\
& (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\
& \forall X2. ((v8_group_9 X2 X0 X1) \wedge (m2_finseq_1 X2 (k6_group_9 \\
& X0 X1))) \Rightarrow (\forall X3. ((v8_group_9 X3 X0 X1) \wedge (m2_finseq_1 X3 (k6_group_9 \\
& X0 X1))) \Rightarrow (\neg(\neg r1_xxreal_0 (k3_finseq_1 X2) np_1) \wedge ((\neg r1_xxreal_0 \\
& (k3_finseq_1 X3) np_1) \wedge (\neg r4_group_9 X0 X1 (k21_group_9 X0 X1 X2 \\
& X3) X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((v8_group_9 X2 X0 X1)\wedge(m2_finseq_1 X2 (k6_group_9 \\ & X0 X1)))\Rightarrow(\forall X3.((v8_group_9 X3 X0 X1)\wedge(m2_finseq_1 X3 (k6_group_9 \\ & X0 X1)))\Rightarrow((r1_xxreal_0 (k3_finseq_1 X2) (k3_finseq_1 X3))\Rightarrow((\\ & (\neg r1_xxreal_0 (k3_finseq_1 X2) np_1)\wedge(\neg r1_xxreal_0 (k3_finseq_1 \\ & X3) np_1))\vee(r4_group_9 X0 X1 X3 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((v8_group_9 X2 X0 X1)\wedge(m2_finseq_1 X2 (k6_group_9 \\ & X0 X1)))\Rightarrow(r5_group_9 X0 X1 X1 X2 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X1)\wedge((v2_group_1 X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge \\ & l1_group_9 X1 X0))))\wedge(((v8_group_9 X2 X0 X1)\wedge(m1_finseq_1 X2 \\ & (k6_group_9 X0 X1)))\wedge((v8_group_9 X3 X0 X1)\wedge(m1_finseq_1 X3 (k6_group_9 \\ & X0 X1))))\Rightarrow(r4_group_9 X0 X1 X2 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge \\ (v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (10)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge \\ & l1_group_9 X1 X0)))) \wedge (((v8_group_9 X2 X0 X1) \wedge (m1_finseq_1 X2 \\ & (k6_group_9 X0 X1))) \wedge ((v8_group_9 X3 X0 X1) \wedge (m1_finseq_1 X3 (k6_group_9 \\ & X0 X1)))) \Rightarrow ((v8_group_9 (k21_group_9 X0 X1 X2 X3) X0 X1) \wedge (m2_finseq_1 \\ & (k21_group_9 X0 X1 X2 X3) (k6_group_9 X0 X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (15)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (16)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \forall X2. ((v8_group_9 X2 X0 X1) \wedge (m2_finseq_1 X2 (k6_group_9 \\ & X0 X1))) \Rightarrow (\forall X3. ((v8_group_9 X3 X0 X1) \wedge (m2_finseq_1 X3 (k6_group_9 \\ & X0 X1))) \Rightarrow (\exists X4. ((v8_group_9 X4 X0 X1) \wedge (m2_finseq_1 X4 (k6_group_9 \\ & X0 X1))) \wedge (\exists X5. ((v8_group_9 X5 X0 X1) \wedge (m2_finseq_1 X5 (k6_group_9 \\ & X0 X1)))) \wedge ((r4_group_9 X0 X1 X4 X2) \wedge ((r4_group_9 X0 X1 X5 X3) \wedge (r5_group_9 \\ & X0 X1 X1 X4 X5)))))) \end{aligned}$$