

l25_group_9

(TMWX1kwzUxZL96nAU3Ds5BqC7rYuUefh7kN)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. 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 $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \Rightarrow ((X2 \in X0) \Rightarrow ((X1 = k1_xboole_0) \vee (k1_funct_1 X3 X2 \in X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1_funct_1 (k5_relat_1 X2 X1) X0 = k1_funct_1 X2 \\ & X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.(m1_group_9 X2 X0 X1)\Rightarrow((\neg v2_struct_0 X2)\wedge((v2_group_1 \\ & X2)\wedge((v3_group_1 X2)\wedge((v3_group_9 X2 X0)\wedge(l1_group_9 X2 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(l1_group_9 X1 X0)\Rightarrow(l3_algstr_0 X1) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ & X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\wedge \\ & (m1_subset_1 X2 X0))\Rightarrow((v1_funct_1 (k3_group_9 X0 X1 X2))\wedge((v1_funct_2 \\ & (k3_group_9 X0 X1 X2) (u1_struct_0 X1) (u1_struct_0 X1))\wedge((v1_group_6 \\ & (k3_group_9 X0 X1 X2) X1 X1)\wedge(m1_subset_1 (k3_group_9 X0 X1 X2) (\\ & k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((\neg v2_struct_0 X2)\wedge((v2_group_1 X2)\wedge((v3_group_1 \\ & X2)\wedge((v3_group_9 X2 X0)\wedge(l1_group_9 X2 X0))))\Rightarrow((m1_group_9 \\ & X2 X0 X1)\Leftrightarrow((m1_group_2 X2 X1)\wedge(\forall X3.(m1_subset_1 X3 X0)\Rightarrow \\ & (k3_group_9 X0 X2 X3 = k2_partfun1 (u1_struct_0 X1) (u1_struct_0 \\ & X1) (k3_group_9 X0 X1 X3) (u1_struct_0 X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 X0) \Rightarrow (\forall X2.((\neg v2_struct_0 \\ & X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 X2) \wedge ((v3_group_9 X2 X0) \wedge (\\ & l1_group_9 X2 X0)))))) \Rightarrow (\forall X3.(m1_group_9 X3 X0 X2) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X2)) \Rightarrow ((r1_struct_0 X3 X4) \Rightarrow (r1_struct_0 \\ & X3 (k3_funct_2 (u1_struct_0 X2) (u1_struct_0 X2) (k3_group_9 X0 \\ & X2 X1) X4)))))) \end{aligned}$$