

t33_yellow16

(TMKpqfQ61pB6yGMGaN2PH453MscoQUPRjEg)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_waybel_3 : \iota \Rightarrow o$ be given. Let $v1_yellow16 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_yellow_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_yellow16 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_yellow_1 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_waybel_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge \\ & (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 \\ & X1) \wedge (v1_yellow16 X1)))))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 (k5_yellow_1 X0 X1)))) \Rightarrow ((r1_yellow_0 (k5_yellow_1 \\ & X0 X1) X2) \Leftrightarrow (\forall X3. (m1_subset_1 X3 X0) \Rightarrow (r1_yellow_0 (k2_yellow16 \\ & X0 X1 X3) (k5_waybel_3 X0 X1 X3 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (((X1 = k1_yellow_0 \\ & X0 X2) \wedge (r1_yellow_0 X0 X2)) \Rightarrow ((r2_lattice3 X0 X2 X1) \wedge (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 \\ & X0 X1 X3)))))) \wedge (((r2_lattice3 X0 X2 X1) \wedge (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 X0 X1 \\ & X3)))))) \Rightarrow ((X1 = k1_yellow_0 X0 X2) \wedge (r1_yellow_0 X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((r3_orders_2 X0 X1 X2)\Leftrightarrow(r1_orders_2 X0 X1 X2))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge \\ & (v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_waybel_3 \\ & X1)\wedge(v1_yellow16 X1))))))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 (k5_yellow_1 X0 X1))))\Rightarrow(\neg(\forall X3.(m1_subset_1 \\ & X3 X0)\Rightarrow(r1_yellow_0 (k2_yellow16 X0 X1 X3) (k5_waybel_3 X0 X1 X3 \\ & X2))))\wedge(\forall X3.(m1_subset_1 X3 (u1_struct_0 (k5_yellow_1 \\ & X0 X1))))\Rightarrow(\neg(\forall X4.(m1_subset_1 X4 X0)\Rightarrow(k4_waybel_3 X0 X1 \\ & X3 X4 = k1_yellow_0 (k3_waybel_3 X0 X1 X4) (k5_waybel_3 X0 X1 X4 X2))))\wedge \\ & ((r2_lattice3 (k5_yellow_1 X0 X1) X2 X3)\wedge(\forall X4.(m1_subset_1 \\ & X4 (u1_struct_0 (k5_yellow_1 X0 X1))))\Rightarrow((r2_lattice3 (k5_yellow_1 \\ & X0 X1) X2 X4)\Rightarrow(r3_orders_2 (k5_yellow_1 X0 X1) X3 X4)))))) \quad (4) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v1_yellow_1 X1)\wedge(v4_waybel_3 X1))))))\Rightarrow((\neg v2_struct_0 (k5_yellow_1 X0 X1))\wedge(v1_orders_2 (k5_yellow_1 X0 X1))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_relat_1 X1)\wedge \\ & (v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_waybel_3 \\ & X1)\wedge(v1_yellow16 X1))))))\Rightarrow((v1_orders_2 (k5_yellow_1 X0 X1))\wedge \\ & ((v4_orders_2 (k5_yellow_1 X0 X1))\wedge(v5_orders_2 (k5_yellow_1 \\ & X0 X1)))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v1_yellow_1 X1)\wedge((v4_waybel_3 X1)\wedge(v5_waybel_3 X1))))))))\Rightarrow((v1_orders_2 (k5_yellow_1 X0 X1))\wedge(v3_orders_2 (k5_yellow_1 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge(v1_yellow_1 X1))))\Rightarrow((v1_orders_2 (k5_yellow_1 X0 X1))\wedge(l1_orders_2 (k5_yellow_1 X0 X1))) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_yellow16 X0)) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_yellow_1 X0) \wedge (v5_waybel_3 X0))) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (\\ & (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 \\ & X1) \wedge (v1_yellow16 X1)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 (k5_yellow_1 X0 X1)))) \Rightarrow ((r1_yellow_0 (k5_yellow_1 \\ & X0 X1) X2) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (k4_waybel_3 X0 X1 (\\ & k1_yellow_0 (k5_yellow_1 X0 X1) X2) X3 = k1_yellow_0 (k3_waybel_3 \\ & X0 X1 X3) (k5_waybel_3 X0 X1 X3 X2)))))) \end{aligned}$$