

t5_waybel21
(TMFrRtN81mB76TeML8J5dnL4EJi76zDCsUQ)

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Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v17_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_waybel21 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_yellow_0 : \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r3_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0))) \Rightarrow ((r2_yellow_0 X0 k1_xboole_0) \Rightarrow (v2_yellow_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge ((v2_yellow_0 X0) \wedge (l1_orders_2 X0)))) \Rightarrow ((r2_yellow_0 X0 k1_xboole_0) \wedge (r1_yellow_0 X0 (u1_struct_0 X0))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k7_relset_1 X0 X1 X2 X3 = k7_relat_1 X2 X3) \quad (4)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(v1_xboole_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge(v1_xboole_0 X1))\Rightarrow(v1_xboole_0 (k7_relat_1 X0 X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(l1_orders_2 X1))\Rightarrow(\forall X2.((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1))\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))\Rightarrow \\ & ((v17_waybel_0 X2 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))\Rightarrow(r3_waybel_0 X0 X1 X2 X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(l1_orders_2 X1))\Rightarrow(\forall X2.((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1))\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))\Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow \\ & ((r3_waybel_0 X0 X1 X2 X3)\Leftrightarrow((r2_yellow_0 X0 X3)\Rightarrow((r2_yellow_0 \\ & X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3))\wedge(k2_yellow_0 \\ & X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) = k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 X1) X2 (k2_yellow_0 X0 X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 \\ & X0)\wedge((v2_lattice3 X0)\wedge(l1_orders_2 X0))))\Rightarrow(\forall X1.((v3_orders_2 \\ & X1)\wedge((v4_orders_2 X1)\wedge((v5_orders_2 X1)\wedge((v2_lattice3 X1)\wedge \\ & (l1_orders_2 X1))))\Rightarrow(((v2_yellow_0 X0)\Rightarrow(v2_yellow_0 X1))\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) \\ & (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X1))))))\Rightarrow((m1_waybel21 X2 X0 X1)\Leftrightarrow \\ & (\forall X3.((v1_finset_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (\\ & u1_struct_0 X0))))\Rightarrow(r3_waybel_0 X0 X1 X2 X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v2_lattice3 X0)\Rightarrow(\neg v2_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 \\ & X0)\wedge((v2_lattice3 X0)\wedge(l1_orders_2 X0))))\Rightarrow(\forall X1.((v3_orders_2 \\ & X1)\wedge((v4_orders_2 X1)\wedge((v5_orders_2 X1)\wedge((v2_lattice3 X1)\wedge \\ & (l1_orders_2 X1))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 (u1_struct_0 X0) (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))\Rightarrow((v17_waybel_0 \\ & X2 X0 X1)\Rightarrow(m1_waybel21 X2 X0 X1)))) \end{aligned}$$