

t19_mycielsk

(TMX2bGzMmwfXfM5bZ9uQjKsenHJPWg17x3B)

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Let $v1_necklace : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_dilworth : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_dilworth : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_necklace : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_necklace X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow ((r1_orders_2 X0 X1 X2) \Rightarrow (r1_orders_2 X0 X2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (((v1_dilworth X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(X2 \in X1) \wedge \\ & ((X3 \in X1) \wedge ((X2 \neq X3) \wedge ((\neg r1_orders_2 X0 X2 X3) \wedge (\neg r1_orders_2 X0 \\ & X3 X2)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 (k3_necklace X0))) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 (k3_necklace X0))) \Rightarrow (\neg(X1 = X3) \wedge \\ & (X2 = X4) \wedge ((r1_orders_2 X0 X1 X2) \wedge (r1_orders_2 (k3_necklace X0) \\ & X3 X4)))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v1_necklace\ X0)\wedge(l1_orders_2\ X0))\Rightarrow((v1_orders_2\ (k3_necklace\ X0))\wedge(v1_necklace\ (k3_necklace\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2\ X0)\Rightarrow((v1_orders_2\ (k3_necklace\ X0))\wedge(l1_orders_2\ (k3_necklace\ X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2\ X0)\Rightarrow(\forall X1.((v1_orders_2\ X1)\wedge(l1_orders_2\ X1))\Rightarrow((X1 = k3_necklace\ X0)\Leftrightarrow((u1_struct_0\ X1 = u1_struct_0\ X0)\wedge(u1_orders_2\ X1 = k7_subset_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X0))\ (k3_subset_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X0))\ (u1_orders_2\ X0))\ (k6_partfun1\ (u1_struct_0\ X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((v2_dilworth\ X1\ X0)\Leftrightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0))\Rightarrow(((X2 \in X1)\wedge(X3 \in X1))\Rightarrow((X2 = X3)\vee((\neg r1_orders_2\ X0\ X2\ X3)\wedge(\neg r1_orders_2\ X0\ X3\ X2)))))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_necklace\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(\forall X1.((v1_dilworth\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v2_dilworth\ X1\ (k3_necklace\ X0))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ (k3_necklace\ X0)))))) \end{aligned}$$