

t20_mycielsk
(TMLLNNFScvfgH7CP9HzWaQfLAcy1jgxje7G)

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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 $k3_necklace : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_dilworth : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 (k3_necklace X0))) \Rightarrow (\forall X4. \\ (m1_subset_1 X4 (u1_struct_0 (k3_necklace X0))) \Rightarrow (\neg(X1 = X3) \wedge \\ (X2 = X4) \wedge ((r1_orders_2 X0 X1 X2) \wedge (r1_orders_2 (k3_necklace X0) \\ X3 X4)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((v1_necklace X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v1_orders_2 \\ (k3_necklace X0)) \wedge (v1_necklace (k3_necklace X0))) \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.((v1_orders_2 X1) \wedge (l1_orders_2 X1)) \Rightarrow ((X1 = k3_necklace X0) \Leftrightarrow ((u1_struct_0 X1 = u1_struct_0 X0) \wedge (u1_orders_2 X1 = k7_subset_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (k3_subset_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_orders_2 X0)) (k6_partfun1 (u1_struct_0 X0))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v2_dilworth X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow ((X2 = X3) \vee ((\neg r1_orders_2 X0 X2 X3) \wedge (\neg r1_orders_2 X0 X3 X2)))))))))) \end{aligned} \quad (7)$$

Theorem 1

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