

t14_dilworth
(TMG6JTQ1ziGaYXRGs2TBqJG5DjVWS1pcm9w)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_dilworth : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v13_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0\ np_1) \wedge (m2_subset_1\ np_1\ k1_numbers\ k5_numbers)) \wedge \\ & ((m1_subset_1\ np_1\ k5_numbers) \wedge (m1_subset_1\ np_1\ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0) \wedge ((m1_subset_1 \\ & X1\ X0) \wedge (m1_subset_1\ X2\ X0))) \Rightarrow (k7_domain_1\ X0\ X1\ X2 = k2_tarski\ X1 \\ & X2) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_zfmisc_1 \\ & (u1_struct_0\ X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_card_1\ X0) \wedge ((v13_struct_0\ X1\ X0) \wedge \\ & (l1_struct_0\ X1))) \Rightarrow (v3_card_1\ (u1_struct_0\ X1)\ X0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\ X1 X0) \wedge (m1_subset_1 X2 X0))) \Rightarrow (m1_subset_1 (k7_domain_1 X0 X1 X2) \\ (k1_zfmisc_1 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k2_tarski X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v2_dilworth X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow ((X2 = X3) \vee ((\neg r1_orders_2 X0 X2 X3) \wedge \\ (\neg r1_orders_2 X0 X3 X2)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v3_card_1 X0 np_1) \Rightarrow ((\neg v1_xboole_0 X0) \wedge (v1_zfmisc_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_card_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_zfmisc_1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v7_struct_0 \\ X0)) \Rightarrow (v13_struct_0 X0 np_1)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow (\neg(\neg r1_orders_2 X0 X1 X2) \wedge ((\neg r1_orders_2 X0 \\ X2 X1) \wedge (\neg(v2_dilworth (k7_domain_1 (u1_struct_0 X0) X1 X2) X0) \wedge \\ (m1_subset_1 (k7_domain_1 (u1_struct_0 X0) X1 X2) (k1_zfmisc_1 \\ (u1_struct_0 X0)))))))))) \end{aligned}$$