

t42_dilworth

(TMXtq85N1Tp3Ng432RDPi6gTpDAyjtFvYNN)

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Let $v3_dilworth : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_dilworth : \iota \Rightarrow \iota$ be given. Let $k5_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_dilworth : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\forall X2.((v1_dilworth X2 (k5_yellow_0 \\ X0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k5_yellow_0 \\ X0 X1)))))) \Rightarrow ((v1_dilworth X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v3_dilworth X0) \wedge (l1_orders_2 X0)) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_orders_2 \\ (k5_yellow_0 X0 X1)) \wedge ((v4_yellow_0 (k5_yellow_0 X0 X1) X0) \wedge (v3_dilworth \\ (k5_yellow_0 X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_yellow_0 X1 X0) \Rightarrow (l1_orders_2 X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((l1_orders_2 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow ((v1_orders_2 (k5_yellow_0 X0 X1)) \wedge ((v4_yellow_0 \\ (k5_yellow_0 X0 X1) X0) \wedge (m1_yellow_0 (k5_yellow_0 X0 X1) X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v3_dilworth\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(v7_ordinal1\ (k1_dilworth\ X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_dilworth\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(\forall X1. \\ (v7_ordinal1\ X1)\Rightarrow((X1 = k1_dilworth\ X0)\Leftrightarrow((\exists X2.((v1_finset_1 \\ X2)\wedge((v1_dilworth\ X2\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))))))\wedge(k5_card_1\ X2 = X1))\wedge(\forall X2.((v1_finset_1\ X2)\wedge(\\ (v1_dilworth\ X2\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))))))\Rightarrow(r1_xxreal_0\ (k5_card_1\ X2\ X1)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0.((v3_dilworth\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(\forall X1. \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(r1_xxreal_0 \\ (k1_dilworth\ (k5_yellow_0\ X0\ X1))\ (k1_dilworth\ X0))) \end{aligned}$$