

t22\_mycielsk

(TMZkU9A2kneoPWM7jCtpWotgCpcPWaeoSH8)

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Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v2\_dilworth : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_dilworth : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow (((v1\_dilworth X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))) \Leftrightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(X2 \in X1) \wedge \\ ((X3 \in X1) \wedge ((X2 \neq X3) \wedge ((\neg r1\_orders\_2 X0 X2 X3) \wedge (\neg r1\_orders\_2 X0 \\ X3 X2)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 (k3\_necklace X0))) \Rightarrow (\forall X4. \\ (m1\_subset\_1 X4 (u1\_struct\_0 (k3\_necklace X0))) \Rightarrow (((X1 = X3) \wedge \\ (X2 = X4) \wedge (X1 \in u1\_struct\_0 X0)) \Rightarrow ((X1 = X2) \vee ((r1\_orders\_2 (k3\_necklace \\ X0) X3 X4) \vee (r1\_orders\_2 X0 X1 X2)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. (X2 \in X1) \Rightarrow (X2 \in X0)) \quad (4)$$

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**

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.((v2\_dilworth X1 (k3\_necklace X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k3\_necklace X0)))))) \Rightarrow ((v1\_dilworth X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))))$$