

t28\_dilworth  
(TML6AvB9pMaCoC6juqimAgodpELoLu7k1y5)

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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  $v1\_dilworth : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_yellow\_0 X1 X0) \Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\ X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\ X1)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X1)) \Rightarrow (((X4 = X2) \wedge \\ ((X5 = X3) \wedge (r1\_orders\_2 X1 X4 X5)) \Rightarrow (r1\_orders\_2 X0 X2 X3))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_yellow\_0 X1 X0) \Rightarrow (l1\_orders\_2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_orders\_2 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v1\_orders\_2 (k5\_yellow\_0 X0 X1)) \wedge ((v4\_yellow\_0 (k5\_yellow\_0 X0 X1) X0) \wedge (m1\_yellow\_0 (k5\_yellow\_0 X0 X1) X0))) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2.((v1\_orders\_2 X2) \wedge ((v4\_yellow\_0 X2 X0) \wedge (m1\_yellow\_0 X2 X0))) \Rightarrow ((X2 = k5\_yellow\_0 X0 X1) \Leftrightarrow (u1\_struct\_0 X2 = X1)))) \quad (8)$$

**Theorem 1**

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2.((v1\_dilworth X2 (k5\_yellow\_0 X0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 (k5\_yellow\_0 X0 X1)))))) \Rightarrow ((v1\_dilworth X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))))$$