

# t16\_dilworth (TMP- JaWCvXmyvg9FMqHZP7ct4pA6VH2paN2y)

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Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v2\_dilworth : \iota \Rightarrow \iota \Rightarrow o$  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  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. (X2 \in X1) \Rightarrow (X2 \in X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1\_orders\_2 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v2\_dilworth X1 X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\ X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow ((X2 = X3) \vee ((\neg r1\_orders\_2 X0 X2 X3) \wedge \\ (\neg r1\_orders\_2 X0 X3 X2)))))))))) \end{aligned} \quad (4)$$

## Theorem 1

$$\begin{aligned} \forall X0. (l1\_orders\_2 X0) \Rightarrow (\forall X1. ((v2\_dilworth X1 X0) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 X1)) \Rightarrow ((v2\_dilworth X2 X0) \wedge (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \end{aligned}$$