t6_dilworth (TMakqv1gYrnuqgrCrKqBJkGc2XVTELDf5Jg)

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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 $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_orders\_2 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $r6\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (m1\_subset\_1\ (u1\_orders\_2\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(r6\_relat\_2\ X0\ X1) \Leftrightarrow (\forall X2.\ \forall X3.\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge ((X2 \neq X3) \wedge ((\neg k4\_tarski\ X2\ X3 \in X0) \wedge (\neg k4\_tarski\ X3\ X2 \in X0)))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_orders\_2\ X0\ X1\ X2) \Leftrightarrow (k4\_tarski\ X1\ X2 \in u1\_orders\_2\ X0)))) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v1\_dilworth\ X1\ X0) \Leftrightarrow (r6\_relat\_2\ (u1\_orders\_2\ X0)\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{8}$$

Theorem 1

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