# t17_dilworth (TMb6c7T8Str2YufPQySSzqvnRLYNyCk8zPz)

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Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ 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 $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v1\_finset\_1\ X1) \Rightarrow (\neg (r1\_xxreal\_0\ X0\ (k5\_card\_1\ X1)) \wedge (\forall X2.((v1\_finset\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X1))) \Rightarrow (k5\_card\_1\ X2 \neq X0)))) \tag{1}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.((v2\_dilworth\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X1)) \Rightarrow ((v2\_dilworth\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))) \tag{2}$$

**Theorem 1**

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.((v1\_finset\_1\ X1) \wedge ((v2\_dilworth\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (\forall X2.(v7\_ordinal1\ X2) \Rightarrow (\neg (r1\_xxreal\_0\ X2\ (k5\_card\_1\ X1)) \wedge (\forall X3.((v1\_finset\_1\ X3) \wedge ((v2\_dilworth\ X3\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (k5\_card\_1\ X3 \neq X2)))))$$