

t49\_helly  
(TMbioJC69VE47bauVSqkLdboMihbTewbcWU)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_glib\_000 : \iota \Rightarrow o$  be given. Let  $v3\_glib\_002 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k3\_helly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_helly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v3\_glib\_002 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k6\_glib\_000 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k6\_glib\_000 \\ & X0)) \Rightarrow ((X3 \in k13\_glib\_001 X0 (k2\_helly X0 X1 X2)) \Rightarrow (k3\_helly X0 X1 \\ & X2 X3 = X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v3\_glib\_002 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k6\_glib\_000 X0)) \Rightarrow ((X1 \in k13\_glib\_001 X0 (k2\_helly X0 X1 X2)) \wedge \\ & (X2 \in k13\_glib\_001 X0 (k2\_helly X0 X1 X2)))))) \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v3\_glib\_002 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k6\_glib\_000 X0)) \Rightarrow (k3\_helly X0 X1 X2 X1 = X1))) \end{aligned}$$