

t29\_helly

(TMN8xTcSc5sPvnmFp4Be1W4Pq5XeUaYup3Z)

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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  $k13\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_helly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1.(m3\_glib\_001 \\ & X1 X0) \Rightarrow ((k3\_glib\_001 X0 X1 \in k13\_glib\_001 X0 X1) \wedge (k4\_glib\_001 X0 \\ & X1 \in k13\_glib\_001 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v3\_glib\_002 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k6\_glib\_000 X0)) \Rightarrow ((k3\_glib\_001 X0 (k2\_helly X0 X1 X2) = X1) \wedge \\ & (k4\_glib\_001 X0 (k2\_helly X0 X1 X2) = X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 \\ & X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 \\ & X0) \wedge (v3\_glib\_002 X0)))))) \wedge ((m1\_subset\_1 X1 (k6\_glib\_000 X0)) \wedge \\ & (m1\_subset\_1 X2 (k6\_glib\_000 X0)))) \Rightarrow ((v5\_glib\_001 (k2\_helly \\ & X0 X1 X2) X0) \wedge (m3\_glib\_001 (k2\_helly X0 X1 X2) X0)) \end{aligned} \tag{3}$$

**Theorem 1**

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