

t30\_sgraph1  
(TMPP4HXehTfmmbpX3YHaRS5mDkXwmAcxDT6)

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Let  $m1\_sgraph1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_sgraph1 : \iota \Rightarrow \iota$  be given. Let  $k4\_sgraph1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (2)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (3)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0. (v1\_finset\_1 X0) \Rightarrow (k5\_card\_1 X0 = k1\_card\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \quad (6)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_sgraph1 X1 X0) \Rightarrow (\forall X2. \forall X3. \\ & (m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((X3 = k4\_sgraph1 X0 X1 X2) \Leftrightarrow (\exists X4. \\ & (v1\_finset\_1 X4) \wedge ((\forall X5. (X5 \in X4) \Leftrightarrow ((X5 \in u1\_sgraph1 X1) \wedge \\ & (X2 \in X5)))) \wedge (X3 = k5\_card\_1 X4)))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_sgraph1\ X1\ X0)\Rightarrow(\forall X2.\forall X3. \\ \neg(X3 \in u1\_sgraph1\ X1)\wedge((k4\_sgraph1\ X0\ X1\ X2 = k6\_numbers)\wedge(X2 \in X3)))$$