

t22\_graph\_3  
(TMK1PkX1Yeh1LLWFSnhGXPP7mDA1dct6Kc5)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_graph\_1 : \iota \Rightarrow o$  be given. Let  $l1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_graph\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_graph\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_graph\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_graph\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v6\_graph\_1 X0) \wedge (l1\_graph\_1 X0))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (v1\_finset\_1 (k5\_graph\_3 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k5\_graph\_3 X0 X1) (k1\_zfmisc\_1 (u4\_struct\_0 X0))) \tag{3}$$

Assume the following.

$$\forall X0. (v1\_finset\_1 X0) \Rightarrow (m1\_subset\_1 (k5\_card\_1 X0) k4\_ordinal1) \tag{4}$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k5\_graph\_3 X0 X1 = k2\_graph\_3 X0 X1 (u4\_struct\_0 X0))) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_graph\_1 X0) \wedge (l1\_graph\_1 \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 k5\_numbers) \Rightarrow ((X2 = k8\_graph\_1 X0 X1) \Leftrightarrow (\exists X3. \\
& (v1\_finset\_1 X3) \wedge ((\forall X4.(X4 \in X3) \Leftrightarrow ((X4 \in u4\_struct\_0 X0) \wedge \\
& (k1\_funct\_1 (u2\_graph\_1 X0) X4 = X1)))) \wedge (X2 = k5\_card\_1 X3))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.\forall X3.(m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (u4\_struct\_0 X0))) \Rightarrow ((X3 = k2\_graph\_3 X0 X1 X2) \Leftrightarrow \\
& (\forall X4.(X4 \in X3) \Leftrightarrow ((X4 \in u4\_struct\_0 X0) \wedge ((X4 \in X2) \wedge (k1\_funct\_1 \\
& (u2\_graph\_1 X0) X4 = X1))))))
\end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_graph\_1 X0) \wedge (l1\_graph\_1 \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k5\_card\_1 \\
& (k5\_graph\_3 X0 X1) = k8\_graph\_1 X0 X1))
\end{aligned}$$