

# t22\_graph\_4 (TMWKeKHwmW- StGh4Ce5uDHBjyJdKAKF5GVZp)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v7\_graph\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_graph\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & \quad (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\ & ((\neg v2\_struct\_0 X2) \wedge (l1\_graph\_1 X2)) \Rightarrow (((v2\_funct\_1 X0) \wedge (m2\_graph\_1 \\ & X0 X2)) \Rightarrow ((v2\_funct\_1 (k5\_relat\_1 X0 (k2\_finseq\_1 X1))) \wedge (m2\_graph\_1 \\ & (k5\_relat\_1 X0 (k2\_finseq\_1 X1)) X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 \\ & X1) \wedge (l1\_graph\_1 X1)) \Rightarrow (\forall X2. ((v7\_graph\_1 X2 X1) \wedge (m2\_graph\_1 \\ & X2 X1)) \Rightarrow ((v7\_graph\_1 (k2\_partfun1 k5\_numbers (u4\_struct\_0 X1) \\ & X2 (k2\_finseq\_1 X0)) X1) \wedge (m2\_graph\_1 (k2\_partfun1 k5\_numbers \\ & (u4\_struct\_0 X1) X2 (k2\_finseq\_1 X0)) X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_graph\_1 X0))\Rightarrow(\forall X1.(m2\_graph\_1 X1 X0)\Rightarrow(m2\_finseq\_1 X1 (u4\_struct\_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (9)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Leftrightarrow(X0 \in k4\_ordinal1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1\_tarski X0 X1)\wedge(r1\_tarski X1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (14)$$

**Theorem 1**

$$\forall X0.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 k5\_numbers)\Rightarrow(\forall X2.(((\neg v2\_struct\_0 X2)\wedge(l1\_graph\_1 X2))\Rightarrow(((v2\_funct\_1 X0)\wedge((v7\_graph\_1 X0 X2)\wedge(m2\_graph\_1 X0 X2)))\Rightarrow(((v2\_funct\_1 (k5\_relat\_1 X0 (k2\_finseq\_1 X1)))\wedge((v7\_graph\_1 (k5\_relat\_1 X0 (k2\_finseq\_1 X1)) X2)\wedge(m2\_graph\_1 (k5\_relat\_1 X0 (k2\_finseq\_1 X1)) X2))))))))))$$