

# t18\_graphsp (TMP- wvN3jdQkDETi6CwYeUFfiGNp5srzKtmD)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_graphsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_graphsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(X2 \neq X3) \Rightarrow (k1\_funct\_1 (k2\_funct\_7 X0 X2 X1) X3 = k1\_funct\_1 \\ & \quad X0 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{2}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{3}$$

Assume the following.

$$\forall X0. \forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow (k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2.((m1\_finseq\_1 X0 k1\_numbers) \wedge \\ & (m1\_subset\_1 X2 k1\_numbers)) \Rightarrow (k1\_graphsp X0 X1 X2 = k2\_funct\_7 \\ & \quad X0 X1 X2) \end{aligned} \tag{5}$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 \ X0 \ X1) \Rightarrow (m1\_subset\_1 \ X2 \ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_2 \ X1 \ X0) \Rightarrow (\forall X2. (m2\_finseq\_2 \\ X2 \ X0 \ X1) \Rightarrow (m2\_finseq\_1 \ X2 \ X0)) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_relat\_1 \ X1) \wedge (v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1)) \quad (9)$$

Assume the following.

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

Assume the following.

$$\forall X0. m1\_finseq\_2 \ (k3\_finseq\_2 \ X0) \ X0 \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 \ X0 \ k1\_numbers) \wedge \\ (m1\_subset\_1 \ X2 \ k1\_numbers)) \Rightarrow (m2\_finseq\_1 \ (k1\_graphsp \ X0 \ X1 \ X2) \\ k1\_numbers) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. (m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X1. \\ (m2\_subset\_1 \ X1 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X2. (m2\_finseq\_1 \\ X2 \ k1\_numbers) \Rightarrow (\forall X3. (m1\_subset\_1 \ X3 \ k1\_numbers) \Rightarrow (k2\_graphsp \\ X0 \ X1 \ X2 \ X3 = k1\_graphsp \ (k1\_graphsp \ X2 \ X0 \ X1) \ X1 \ X3)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 \ X1 \ X0) \Rightarrow (v5\_relat\_1 \ X1 \ X0) \quad (14)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 \ X0) \wedge (v5\_relat\_1 \ X0 \ k1\_numbers)) \Rightarrow ((v1\_relat\_1 \ X0) \wedge (v3\_valued\_0 \ X0)) \quad (15)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 \ X0) \Rightarrow (\forall X1. (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)) \Rightarrow (v1\_xboole\_0 \ X1)) \quad (16)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 k1\_numbers k5\_numbers) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers \\ & k3\_finseq\_2 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\ & (\neg(X0 \neq X1) \wedge ((X0 \neq X2) \wedge (k1\_seq\_1 (k2\_graphsp X1 X2 X3 X4) X0 \neq k1\_seq\_1 \\ & X3 X0))))))) \end{aligned}$$