

t29\_graphsp (TM-  
TYWv1L5mpBwv9nVgw4jUTAUqXJTrhJ3WZ)

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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  $k15\_graphsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_graphsp : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2. (m2\_finseq\_2 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (2)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 \\ X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow (k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (6)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 (k3\_finseq\_2 k1\_numbers))\wedge (m1\_subset\_1 X1 k5\_numbers))\Rightarrow(v1\_finset\_1 (k7\_graphsp X0 X1)) \quad (8)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 (k3\_finseq\_2 k1\_numbers))\wedge (v7\_ordinal1 X1))\Rightarrow(m1\_subset\_1 (k7\_graphsp X0 X1) (k1\_zfmisc\_1 k5\_numbers)) \quad (10)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.m1\_finseq\_2 (k3\_finseq\_2 X0) X0 \quad (12)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m2\_finseq\_2 X0 k1\_numbers (k3\_finseq\_2 k1\_numbers))\Rightarrow \\ &(\forall X1.(v7\_ordinal1 X1)\Rightarrow(k7\_graphsp X0 X1 = ReplSep (toset \\ &(\lambda X2 : \iota.m2\_subset\_1 X2 k1\_numbers k5\_numbers)) (\lambda X2 : \\ &\iota.(X2 \in k4\_finseq\_1 X0)\wedge((r1\_xxreal\_0 np\_1 X2)\wedge((r1\_xxreal\_0 \\ &X2 X1)\wedge((k1\_seq\_1 X0 X2\neq k1\_real\_1 np\_1)\wedge(k1\_seq\_1 X0 (k1\_nat\_1 \\ &X1 X2)\neq k1\_real\_1 np\_1)))))) (\lambda X2 : \iota.X2)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_finset\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k5\_numbers))) \Rightarrow \\
& \quad (\forall X1.(m2\_finseq\_2 X1 k1\_numbers (k3\_finseq\_2 k1\_numbers)) \Rightarrow \\
& \quad \quad (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\forall X3. \\
& (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow ((X3 = k15\_graphsp X0 X1 \\
& \quad X2) \Leftrightarrow ((\neg(X0 \neq k1\_xboole\_0) \wedge (\forall X4.(m2\_subset\_1 X4 k1\_numbers \\
& \quad k5\_numbers) \Rightarrow (\neg(X4 = X3) \wedge ((X4 \in X0) \wedge ((\forall X5.(m2\_subset\_1 \\
& \quad X5 k1\_numbers k5\_numbers) \Rightarrow ((X5 \in X0) \Rightarrow (r1\_xxreal\_0 (k7\_partfun1 \\
& k1\_numbers X1 (k2\_nat\_1 (k4\_nat\_1 np\_2 X2) X4)) (k7\_partfun1 k1\_numbers \\
& \quad X1 (k2\_nat\_1 (k4\_nat\_1 np\_2 X2) X5)))))) \wedge (\forall X5.(m2\_subset\_1 \\
& \quad X5 k1\_numbers k5\_numbers) \Rightarrow (((X5 \in X0) \wedge (k7\_partfun1 k1\_numbers \\
& \quad X1 (k2\_nat\_1 (k4\_nat\_1 np\_2 X2) X4) = k7\_partfun1 k1\_numbers X1 \\
& \quad (k2\_nat\_1 (k4\_nat\_1 np\_2 X2) X5))) \Rightarrow (r1\_xxreal\_0 X4 X5)))))) \wedge \\
& \quad ((X0 = k1\_xboole\_0) \Rightarrow (X3 = k6\_numbers))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{15}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& \quad (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2.(m2\_finseq\_2 \\
& X2 k1\_numbers (k3\_finseq\_2 k1\_numbers)) \Rightarrow ((X1 = k15\_graphsp (k7\_graphsp \\
& \quad X2 X0) X2 X0) \Rightarrow ((k7\_graphsp X2 X0 = k1\_xboole\_0) \vee ((X1 \in k4\_finseq\_1 \\
& \quad X2) \wedge ((r1\_xxreal\_0 np\_1 X1) \wedge ((r1\_xxreal\_0 X1 X0) \wedge ((k1\_seq\_1 \\
& \quad X2 X1 \neq k1\_real\_1 np\_1) \wedge (k1\_seq\_1 X2 (k2\_nat\_1 X0 X1) \neq k1\_real\_1 \\
& \quad np\_1))))))))))
\end{aligned}$$