

## l2\_graph\_3

(TMcn2tAAYjLLATMSWqjtuS3tFYzdD1BHkCq)

October 27, 2020

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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_graph\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  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.

$$k5\_numbers = k4\_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\ & (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (((r1\_xxreal\_0 np\_1 \\ & X1) \wedge ((r1\_xxreal\_0 X1 (k2\_nat\_1 X2 np\_1)) \wedge (r1\_xxreal\_0 X2 (k3\_finseq\_1 \\ & X0)))) \Rightarrow ((k2\_nat\_1 (k3\_finseq\_1 (k1\_graph\_2 X0 X1 X2)) X1 = k2\_nat\_1 \\ & X2 np\_1) \wedge (\forall X3. (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow \\ & ((\neg r1\_xxreal\_0 (k3\_finseq\_1 (k1\_graph\_2 X0 X1 X2)) X3) \Rightarrow (k1\_funct\_1 \\ & (k1\_graph\_2 X0 X1 X2) (k2\_nat\_1 X3 np\_1) = k1\_funct\_1 X0 (k2\_nat\_1 \\ & X1 X3)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (4)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & \quad (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 k5\_numbers) \Rightarrow (((r1\_xxreal\_0 np\_1 X1) \wedge ((r1\_xxreal\_0 X1 (k2\_nat\_1 \\ & X2 np\_1)) \wedge (r1\_xxreal\_0 X2 (k3\_finseq\_1 X0)))) \Rightarrow ((k2\_nat\_1 (k3\_finseq\_1 \\ & (k1\_graph\_2 X0 X1 X2)) X1 = k2\_nat\_1 X2 np\_1) \wedge (\forall X3.(m1\_subset\_1 \\ & X3 k5\_numbers) \Rightarrow ((\neg r1\_xxreal\_0 (k3\_finseq\_1 (k1\_graph\_2 X0 X1 \\ & X2)) X3) \Rightarrow (k1\_funct\_1 (k1\_graph\_2 X0 X1 X2) (k2\_nat\_1 X3 np\_1) = \\ & \quad k1\_funct\_1 X0 (k2\_nat\_1 X1 X3)))))))))) \end{aligned}$$