

## l58\_matrix\_9

(TMQ3JA3bm1DvtXfV94YfAdELkScJVFwRKbW)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_matrix\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_matrix\_2 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_matrix\_2 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$k1\_finseq\_2 \ np\_3 = k11\_finseq\_1 \ np\_1 \ np\_2 \ np\_3 \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.(m1\_matrix\_2 \ X1 \ (k12\_matrix\_2 \\ X0)) \Rightarrow ((k3\_relat\_1 \ (k1\_finseq\_2 \ X0) \ X1 = X1) \wedge (k3\_relat\_1 \ X1 \ (k1\_finseq\_2 \\ X0) = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 \ X0 \ X1) \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 \ np\_3) \wedge (m2\_subset\_1 \ np\_3 \ k1\_numbers \ k5\_numbers)) \wedge \\ ((m1\_subset\_1 \ np\_3 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_3 \ k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 \ np\_2) \wedge (m2\_subset\_1 \ np\_2 \ k1\_numbers \ k5\_numbers)) \wedge \\ ((m1\_subset\_1 \ np\_2 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_2 \ k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 \ X0) \wedge (v3\_matrix\_2 \ X0)) \Rightarrow (\forall X1. \\ & (m1\_matrix\_2 \ X1 \ X0) \Leftrightarrow (m1\_subset\_1 \ X1 \ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 \ X0) \wedge \\ & ((m1\_subset\_1 \ X1 \ X0) \wedge ((m1\_subset\_1 \ X2 \ X0) \wedge (m1\_subset\_1 \ X3 \ X0)))) \Rightarrow \\ & (k3\_finseq\_4 \ X0 \ X1 \ X2 \ X3 = k11\_finseq\_1 \ X1 \ X2 \ X3) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1\_funct\_1 \ X4) \wedge (m1\_subset\_1 \ X4 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X0 \ X1)))) \wedge ((v1\_funct\_1 \ X5) \wedge (m1\_subset\_1 \ X5 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X2 \ X3)))) \Rightarrow (k1\_partfun1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5 = k3\_relat\_1 \ X4 \ X5) \end{aligned} \quad (10)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 \ X0) \Rightarrow ((\neg v1\_xboole\_0 \ (k12\_matrix\_2 \ X0)) \wedge \\ & (v3\_matrix\_2 \ (k12\_matrix\_2 \ X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_funct\_1 \ X1) \wedge ( \\ & (v1\_finseq\_1 \ X1) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \\ & X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 \ X0) \wedge \\ & ((m1\_subset\_1 \ X1 \ X0) \wedge ((m1\_subset\_1 \ X2 \ X0) \wedge (m1\_subset\_1 \ X3 \ X0)))) \Rightarrow \\ & (m2\_finseq\_1 \ (k3\_finseq\_4 \ X0 \ X1 \ X2 \ X3) \ X0) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(X1 = k12\_matrix\_2\ X0) \Leftrightarrow \\ (\forall X2.(X2 \in X1) \Leftrightarrow ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_finseq\_1 \\ X0)\ (k2\_finseq\_1\ X0)) \wedge ((v3\_funct\_2\ X2\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1 \\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1 \\ X0)\ (k2\_finseq\_1\ X0)))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (16)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ (k2\_finseq\_1\ np\_3) \\ (k2\_finseq\_1\ np\_3)) \wedge ((v3\_funct\_2\ X0\ (k2\_finseq\_1\ np\_3)\ (k2\_finseq\_1 \\ np\_3)) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1 \\ np\_3)\ (k2\_finseq\_1\ np\_3)))))) \Rightarrow (k1\_partfun1\ (k2\_finseq\_1 \\ np\_3)\ (k2\_finseq\_1\ np\_3)\ k5\_numbers\ k5\_numbers\ X0\ (k3\_finseq\_4 \\ k5\_numbers\ np\_1\ np\_2\ np\_3) = X0) \end{aligned}$$