

t2\_matrix\_9  
(TMTQsQMPDNUeXr4opiNr5kRVzn2Fjtd3jtg)

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Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_5 : \iota \Rightarrow \iota$  be given. Let  $k1\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $np\_1 : \iota$  be given. 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  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_partfun1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & ((k1\_funct\_1 X0 np\_1 = k1\_funct\_1 (k3\_finseq\_5 X0) (k3\_finseq\_1 \\ & X0)) \wedge (k1\_funct\_1 X0 (k3\_finseq\_1 X0) = k1\_funct\_1 (k3\_finseq\_5 \\ & X0) np\_1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1\_funct\_1 (k4\_relat\_1 X1) X0 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

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

Assume the following.

$$r1\_xxreal\_0 np\_2 np\_2 \quad (5)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_2 \quad (6)$$

Assume the following.

$$r1\_xxreal\_0 \ np\_1 \ np\_1 \quad (7)$$

Assume the following.

$$\forall X0. k6\_partfun1 \ X0 = k4\_relat\_1 \ X0 \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow (k3\_finseq\_1 \ X0 = k1\_card\_1 \ X0) \quad (10)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 \ X0) \Rightarrow (k2\_finseq\_1 \ X0 = k1\_finseq\_1 \ X0) \quad (11)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 \ X0) \Rightarrow ((v1\_relat\_1 \ (k1\_finseq\_2 \ X0)) \wedge ((v1\_funct\_1 \ (k1\_finseq\_2 \ X0)) \wedge ((v3\_card\_1 \ (k1\_finseq\_2 \ X0) \ X0) \wedge (v1\_finseq\_1 \ (k1\_finseq\_2 \ X0))))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (v3\_card\_1 \ X1 \ X0) \Leftrightarrow (k1\_card\_1 \ X1 = X0) \quad (13)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 \ X0) \Rightarrow (k1\_finseq\_2 \ X0 = k6\_partfun1 \ (k2\_finseq\_1 \ X0)) \quad (14)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 \ X0) \Rightarrow (k1\_finseq\_1 \ X0 = ReplSep \ (toset \ (\lambda X1 : \iota. m2\_subset\_1 \ X1 \ k1\_numbers \ k5\_numbers)) \ (\lambda X1 : \iota. (r1\_xxreal\_0 \ np\_1 \ X1) \wedge (r1\_xxreal\_0 \ X1 \ X0)) \ (\lambda X1 : \iota. X1)) \quad (15)$$

Assume the following.

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

**Theorem 1**

$$(k1\_funct\_1 \ (k3\_finseq\_5 \ (k1\_finseq\_2 \ np\_2)) \ np\_1 = np\_2) \wedge (k1\_funct\_1 \ (k3\_finseq\_5 \ (k1\_finseq\_2 \ np\_2)) \ np\_2 = np\_1)$$