

## t22\_matrix\_1

(TMbivjH63mSBuRQzYYkS4xQQ2kzC91XH6Li)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  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  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (k2\_zfmisc\_1 X0 X1 = k1\_xboole\_0) \Leftrightarrow ((X0 = k1\_xboole\_0) \vee (X1 = k1\_xboole\_0)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$(m2\_subset\_1 np\_0 k1\_numbers k5\_numbers) \wedge ((m1\_subset\_1 np\_0 k5\_numbers) \wedge (m1\_subset\_1 np\_0 k1\_numbers)) \quad (3)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (9)$$

Assume the following.

$$\forall X0. \exists X1. (m1\_finseq\_1 X1 X0) \wedge ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_xboole\_0 X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_finseq\_1 X1)))))) \quad (10)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \quad (11)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_xboole\_0 (k9\_xtuple\_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge (v7\_ordinal1 X2))) \Rightarrow (\forall X3. (m1\_matrix\_1 X3 X0 X1 X2) \Rightarrow ((v1\_matrix\_1 X3) \wedge (m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)) \quad (14)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 X0) \wedge (v1\_matrix\_1 X0)))) \Rightarrow (k2\_matrix\_1 X0 = k2\_zfmisc\_1 (k4\_finseq\_1 X0) (k2\_finseq\_1 (k1\_matrix\_1 X0))) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 X0) \wedge (v1\_matrix\_1 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 k5\_numbers) \Rightarrow \\ & (((\neg r1\_xxreal\_0 (k3\_finseq\_1 X0) k1\_xboole\_0) \Rightarrow ((X1 = k1\_matrix\_1 X0) \Leftrightarrow (\exists X2. ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2)))) \wedge ((X2 \in k10\_xtuple\_0 X0) \wedge (k3\_finseq\_1 X2 = X1)))))) \wedge ((r1\_xxreal\_0 (k3\_finseq\_1 X0) k1\_xboole\_0) \Rightarrow ((X1 = k1\_matrix\_1 X0) \Leftrightarrow (X1 = k1\_xboole\_0)))))) \quad (16) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ( \\ \forall X2.(v7\_ordinal1 X2) \Rightarrow (\forall X3.((v1\_matrix\_1 X3) \wedge ( \\ m2\_finseq\_1 X3 (k3\_finseq\_2 X0))) \Rightarrow ((m1\_matrix\_1 X3 X0 X1 X2) \Leftrightarrow ( \\ (k3\_finseq\_1 X3 = X1) \wedge (\forall X4.(m2\_finseq\_1 X4 X0) \Rightarrow ((X4 \in k10\_xtuple\_0 \\ X3) \Rightarrow (k3\_finseq\_1 X4 = X2)))))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (18)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ( \\ \forall X2.(m1\_matrix\_1 X2 X1 k1\_xboole\_0 X0) \Rightarrow ((k3\_finseq\_1 X2 = \\ k1\_xboole\_0) \wedge ((k1\_matrix\_1 X2 = k1\_xboole\_0) \wedge (k2\_matrix\_1 X2 = \\ k1\_xboole\_0)))))) \end{aligned}$$