

## t44\_matrixr2

(TMG8aPnibfWMdcBdn7aL3WEgHVJVavWTFpj)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v33\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  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  $k6\_numbers : \iota$  be given. Let  $k2\_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_matrixr1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  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  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v2\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_vectsp\_1 : \iota$  be given. Let  $v36\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v6\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k35\_binop\_2 : \iota$  be given. Let  $k33\_binop\_2 : \iota$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $u3\_struct\_0 : \iota \Rightarrow \iota$  be given. Let

$u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge \\ & (v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v4\_vectsp\_1 \\ & X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (v7\_ordinal1 X1) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 X0) \\ & X1 X1) \Rightarrow (k12\_matrix\_3 X1 X0 X2 = k12\_matrix\_3 X1 X0 (k5\_matrix\_1 X1 \\ & (u1\_struct\_0 X0) X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 X0 k5\_numbers) \wedge (m1\_matrix\_1 \\ & X1 k1\_numbers X0 X0)) \Rightarrow (k2\_matrixr2 X0 X1 = k1\_matrixr1 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\exists X1. (m1\_finseq\_1 X1 X0) \wedge \\ & ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 \\ & X0) \wedge ((v1\_funct\_1 X1) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((v1\_finset\_1 X1) \wedge \\ & ((v1\_finseq\_1 X1) \wedge (v2\_finseq\_1 X1)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1\_funct\_1 \\ & X1)\wedge((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\wedge(((v1\_funct\_1 X2)\wedge \\ & (v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\wedge((m1\_subset\_1 X3 X0)\wedge \\ & (m1\_subset\_1 X4 X0))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8. \\ & \forall X9.(g6\_algstr\_0 X0 X1 X2 X3 X4 = g6\_algstr\_0 X5 X6 X7 X8 X9)\Rightarrow \\ & ((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & (\neg v6\_struct\_0 k2\_vectsp\_1)\wedge((v13\_algstr\_0 k2\_vectsp\_1)\wedge(( \\ & v33\_algstr\_0 k2\_vectsp\_1)\wedge((v36\_algstr\_0 k2\_vectsp\_1)\wedge((v2\_rlvect\_1 \\ & k2\_vectsp\_1)\wedge((v3\_rlvect\_1 k2\_vectsp\_1)\wedge((v4\_rlvect\_1 k2\_vectsp\_1)\wedge \\ & ((v3\_group\_1 k2\_vectsp\_1)\wedge((v5\_group\_1 k2\_vectsp\_1)\wedge((v3\_vectsp\_1 \\ & k2\_vectsp\_1)\wedge((v5\_vectsp\_1 k2\_vectsp\_1)\wedge(v6\_vectsp\_1 k2\_vectsp\_1)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$(v36\_algstr\_0 k2\_vectsp\_1)\wedge(v4\_vectsp\_1 k2\_vectsp\_1) \quad (12)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (13)$$

Assume the following.

$$(\neg v2\_struct\_0 k2\_vectsp\_1)\wedge(v36\_algstr\_0 k2\_vectsp\_1) \quad (14)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 \\ & X2 X0 X1)\Rightarrow(m1\_subset\_1 X2 X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge( \\ & (v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & X0)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v7\_ordinal1 \\ & X1)\wedge(v7\_ordinal1 X2)))\Rightarrow(\forall X3.(m1\_matrix\_1 X3 X0 X1 X2)\Rightarrow \\ & ((v1\_matrix\_1 X3)\wedge(m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \end{aligned} \quad (18)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 \ X0)\wedge((\neg v1\_xboole\_0 \ X1)\wedge(m1\_matrix\_1 \ X2 \ X1 \ X0 \ X0)))\Rightarrow(m1\_matrix\_1 \ (k5\_matrix\_1 \ X0 \ X1 \ X2) \ X1 \ X0 \ X0) \quad (20)$$

Assume the following.

$$(v1\_funct\_1 \ k35\_binop\_2)\wedge((v1\_funct\_2 \ k35\_binop\_2 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers) \ k1\_numbers)\wedge(m1\_subset\_1 \ k35\_binop\_2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers) \ k1\_numbers)))) \quad (21)$$

Assume the following.

$$(v1\_funct\_1 \ k33\_binop\_2)\wedge((v1\_funct\_2 \ k33\_binop\_2 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers) \ k1\_numbers)\wedge(m1\_subset\_1 \ k33\_binop\_2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers) \ k1\_numbers)))) \quad (22)$$

Assume the following.

$$(v36\_algstr\_0 \ k2\_vectsp\_1)\wedge(l6\_algstr\_0 \ k2\_vectsp\_1) \quad (23)$$

Assume the following.

$$k2\_vectsp\_1 = g6\_algstr\_0 \ k1\_numbers \ k33\_binop\_2 \ k35\_binop\_2 \ np\_1 \ k6\_numbers \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k5\_numbers)\Rightarrow(\forall X1.(m1\_matrix\_1 \ X1 \ k1\_numbers \ X0 \ X0)\Rightarrow(k3\_matrixr2 \ X0 \ X1 = k12\_matrix\_3 \ X0 \ k2\_vectsp\_1 \ (k2\_matrixr2 \ X0 \ X1))) \quad (25)$$

Assume the following.

$$\forall X0.((v1\_matrix\_1 \ X0)\wedge(m2\_finseq\_1 \ X0 \ (k3\_finseq\_2 \ k1\_numbers)))\Rightarrow(k1\_matrixr1 \ X0 = X0) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_xboole\_0 \ X0)\Rightarrow(\forall X2.(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))\Rightarrow(v1\_xboole\_0 \ X2)) \quad (27)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v7\_ordinal1\ X1)) \quad (28)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((v36\_algstr\_0\ X0) \Rightarrow (X0 = g6\_algstr\_0\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u2\_algstr\_0\ X0)\ (u3\_struct\_0\ X0)\ (u2\_struct\_0\ X0))) \quad (29)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.(m1\_matrix\_1\ X1\ k1\_numbers\ X0\ X0) \Rightarrow (k3\_matrixr2\ X0\ X1 = k3\_matrixr2\ X0\ (k5\_matrix\_1\ X0\ k1\_numbers\ X1)))$$