

## t17\_matrix16

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  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  $v3\_matrix16 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_matrix16 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $k2\_finseq\_1 : \iota \Rightarrow \iota$  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  $k4\_ordinal1 : \iota$  be given. Let  $k4\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_matrix16 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_matrix16 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ( \\ & \forall X2.(m1\_matrix\_1 X2 X1 X0 X0) \Rightarrow ((k3\_finseq\_1 X2 = X0) \wedge ((k1\_matrix\_1 \\ & X2 = X0) \wedge (k2\_matrix\_1 X2 = k2\_zfmisc\_1 (k2\_finseq\_1 X0) (k2\_finseq\_1 \\ & X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{2}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0) \wedge ((\neg v1\_xboole\_0 \\ & X1) \wedge (m1\_matrix\_1 X2 X1 X0 X0))) \Rightarrow (k5\_matrix\_1 X0 X1 X2 = k4\_matrix\_1 \\ & X1 X2) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v7\_ordinal1 X1)\wedge(v7\_ordinal1 X2)))\Rightarrow(\forall X3.(m1\_matrix\_1 X3 X0 X1 X2)\Rightarrow((v1\_matrix\_1 X3)\wedge(m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_matrix\_1 X2 X1 X0 X0)))\Rightarrow(m1\_matrix\_1 (k5\_matrix\_1 X0 X1 X2) X1 X0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 X0)))\Rightarrow(\forall X2.((v1\_matrix\_1 X2)\wedge(m2\_finseq\_1 X2 (k3\_finseq\_2 X0)))\Rightarrow((X2 = k4\_matrix\_1 X0 X1)\Leftrightarrow((k3\_finseq\_1 X2 = k1\_matrix\_1 X1)\wedge((\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((k4\_tarski X3 X4 \in k2\_matrix\_1 X2)\Leftrightarrow(k4\_tarski X4 X3 \in k2\_matrix\_1 X1))))\wedge(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((k4\_tarski X4 X3 \in k2\_matrix\_1 X1)\Rightarrow(k3\_matrix\_1 X0 X2 X3 X4 = k3\_matrix\_1 X0 X1 X4 X3)))))))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 X0)))\Rightarrow((v3\_matrix16 X1 X0)\Leftrightarrow(\exists X2.(m2\_finseq\_1 X2 X0)\wedge((k3\_finseq\_1 X2 = k3\_finseq\_1 X1)\wedge(r2\_matrix16 X0 X1 X2)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 X0)))\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge((v1\_funct\_1 X2)\wedge(v1\_finseq\_1 X2)))\Rightarrow((r2\_matrix16 X0 X1 X2)\Leftrightarrow((k3\_finseq\_1 X2 = k3\_finseq\_1 X1)\wedge(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((k4\_tarski X3 X4 \in k2\_matrix\_1 X1)\Rightarrow(k3\_matrix\_1 X0 X1 X3 X4 = k1\_funct\_1 X2 (k2\_xcmplx\_0 (k6\_int\_1 (k6\_xcmplx\_0 X3 X4) (k3\_finseq\_1 X2)) np\_1)))))))))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 \\ X0))) \Rightarrow ((v1\_matrix16 X1 X0) \Leftrightarrow (\exists X2. (m2\_finseq\_1 X2 X0) \wedge ( \\ (k3\_finseq\_1 X2 = k1\_matrix\_1 X1) \wedge (r1\_matrix16 X0 X1 X2)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 \\ X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 \\ X2))) \Rightarrow ((r1\_matrix16 X0 X1 X2) \Leftrightarrow ((k3\_finseq\_1 X2 = k1\_matrix\_1 X1) \wedge \\ (\forall X3. (v7\_ordinal1 X3) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow ( \\ (k4\_tarski X3 X4 \in k2\_matrix\_1 X1) \Rightarrow (k3\_matrix\_1 X0 X1 X3 X4 = k1\_funct\_1 \\ X2 (k2\_xcmplx\_0 (k6\_int\_1 (k6\_xcmplx\_0 X4 X3) (k3\_finseq\_1 X2)) \\ np\_1)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (14)$$

**Theorem 1**

$$\begin{aligned} \forall X0. (m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1. (\neg v1\_xboole\_0 \\ X1) \Rightarrow (\forall X2. (m1\_matrix\_1 X2 X1 X0 X0) \Rightarrow ((v3\_matrix16 X2 X1) \Rightarrow \\ ((r1\_xxreal\_0 X0 k6\_numbers) \vee (v1\_matrix16 (k5\_matrix\_1 X0 X1 \\ X2) X1)))))) \end{aligned}$$