

## t3\_matrix\_6

(TMZ6Nq77Zdup6WAJ66gBAopAU57TG6rEtsf)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. ((k1\_card\_1 X0 = k6\_numbers) \wedge (k1\_card\_1 X1 = k6\_numbers)) \Rightarrow (X0 = X1) \quad (1)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (\neg(k6\_numbers \neq X0) \wedge (r1\_xxreal\_0 X0 k6\_numbers)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge \\ & (v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v4\_vectsp\_1 \\ & X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\ & X0)))) \Rightarrow ((\neg r1\_xreal\_0 (k1\_matrix\_1 X1) k6\_numbers) \Rightarrow (k4\_matrix\_3 \\ & X0 X1 (k1\_matrix\_3 X0 (k1\_matrix\_1 X1) (k1\_matrix\_1 X1)) = k1\_matrix\_3 \\ & X0 (k3\_finseq\_1 X1) (k1\_matrix\_1 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ( \\ & \forall X2.(m1\_matrix\_1 X2 X1 X0 X0) \Rightarrow ((k3\_finseq\_1 X2 = X0) \wedge ((k1\_matrix\_1 \\ & X2 = X0) \wedge (k2\_matrix\_1 X2 = k2\_zfmisc\_1 (k2\_finseq\_1 X0) (k2\_finseq\_1 \\ & X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge \\ & (v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v4\_vectsp\_1 \\ & X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\ & X0)))) \Rightarrow (k4\_matrix\_3 X0 (k1\_matrix\_3 X0 (k3\_finseq\_1 X1) (k3\_finseq\_1 \\ & X1)) X1 = k1\_matrix\_3 X0 (k3\_finseq\_1 X1) (k1\_matrix\_1 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (k3\_finseq\_1 X0 = k1\_card\_1 X0) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 \\ & (u1\_struct\_0 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 \\ & X1) \wedge (v7\_ordinal1 X2))) \Rightarrow (\forall X3.(m1\_matrix\_1 X3 X0 X1 X2) \Rightarrow \\ & ((v1\_matrix\_1 X3) \wedge (m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_algstr\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge (\neg v6\_struct\_0 \\ X0) \wedge ((v13\_algstr\_0 X0) \wedge (v33\_algstr\_0 X0) \wedge (v3\_group\_1 X0) \wedge \\ ((v5\_group\_1 X0) \wedge (v2\_rlvect\_1 X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 \\ X0) \wedge ((v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))) \wedge \\ ((v7\_ordinal1 X1) \wedge (v7\_ordinal1 X2))) \Rightarrow (m1\_matrix\_1 (k1\_matrix\_3 \\ X0 X1 X2) (u1\_struct\_0 X0) X1 X2) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ ((\neg v6\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v33\_algstr\_0 X1) \wedge \\ (v3\_group\_1 X1) \wedge (v5\_group\_1 X1) \wedge (v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 \\ X1) \wedge ((v4\_rlvect\_1 X1) \wedge (v4\_vectsp\_1 X1) \wedge (v5\_vectsp\_1 X1) \wedge \\ (l6\_algstr\_0 X1)))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\ X1) X0 X0) \Rightarrow (\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0) \Rightarrow \\ ((r1\_matrix\_6 X0 X1 X2 X3) \Leftrightarrow (k4\_matrix\_3 X1 X2 X3 = k4\_matrix\_3 X1 \\ X3 X2)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (15)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ ((\neg v6\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v33\_algstr\_0 X1) \wedge \\ (v3\_group\_1 X1) \wedge (v5\_group\_1 X1) \wedge (v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 \\ X1) \wedge ((v4\_rlvect\_1 X1) \wedge (v4\_vectsp\_1 X1) \wedge (v5\_vectsp\_1 X1) \wedge \\ (l6\_algstr\_0 X1)))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\ X1) X0 X0) \Rightarrow (r1\_matrix\_6 X0 X1 X2 (k1\_matrix\_3 X1 X0 X0))) \end{aligned}$$