

t12\_matrix16  
(TMRvpQt4cDMjNQTeEcAtGzdDptdRoh9nrcJ)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  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  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_matrix16 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_matrix\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $l2\_algstr\_0 : \iota \Rightarrow o$  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.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \\
 & X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge \\
 & ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge (v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 \\
 & X1) \wedge ((v4\_rlvect\_1 X1) \wedge (v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\
 & (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\
 & X1) X0 X0) \Rightarrow (\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0) \Rightarrow \\
 & (((v1\_matrix16 X2 (u1\_struct\_0 X1)) \wedge (v1\_matrix16 X3 (u1\_struct\_0 \\
 & X1))) \Rightarrow (v1\_matrix16 (k2\_matrix\_6 X0 X1 X2 X3) (u1\_struct\_0 X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \\ & X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge \\ & ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\ & X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\ & (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\ & X1) X0 X0) \Rightarrow ((v1\_matrix16 X2 (u1\_struct\_0 X1)) \Rightarrow (v1\_matrix16 (k1\_matrix\_6 \\ & X0 X1 X2) (u1\_struct\_0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1 X0) \wedge \\ & (((\neg v2\_struct\_0 X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v33\_algstr\_0 X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 \\ & X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge \\ & ((v5\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1)))))))))) \wedge ((m1\_matrix\_1 \\ & X2 (u1\_struct\_0 X1) X0 X0) \wedge (m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0))) \Rightarrow \\ & (k3\_matrix\_6 X0 X1 X2 X3 = k1\_matrix\_4 X1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1 X0) \wedge \\ & (((\neg v2\_struct\_0 X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v33\_algstr\_0 X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 \\ & X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge \\ & ((v5\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1)))))))))) \wedge ((m1\_matrix\_1 \\ & X2 (u1\_struct\_0 X1) X0 X0) \wedge (m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0))) \Rightarrow \\ & (k2\_matrix\_6 X0 X1 X2 X3 = k3\_matrix\_3 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0) \wedge (((\neg v2\_struct\_0 \\ & X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge \\ & ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\ & X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\ & (l6\_algstr\_0 X1)))))))))) \wedge (m1\_matrix\_1 X2 (u1\_struct\_0 X1) \\ & X0 X0))) \Rightarrow (k1\_matrix\_6 X0 X1 X2 = k2\_matrix\_3 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v7\_ordinal1 X1)\wedge(v7\_ordinal1 X2)))\Rightarrow(\forall X3.(m1\_matrix\_1 X3 X0 X1 X2)\Rightarrow((v1\_matrix\_1 X3)\wedge(m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l1\_algstr\_0 X0)) \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge(((\neg v2\_struct\_0 X1)\wedge((\neg v6\_struct\_0 X1)\wedge((v13\_algstr\_0 X1)\wedge((v33\_algstr\_0 X1)\wedge((v3\_group\_1 X1)\wedge((v5\_group\_1 X1)\wedge((v2\_rlvect\_1 X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 X1)\wedge((v4\_vectsp\_1 X1)\wedge((v5\_vectsp\_1 X1)\wedge(l6\_algstr\_0 X1))))))))))))))\wedge(m1\_matrix\_1 X2 (u1\_struct\_0 X1) X0 X0))\Rightarrow(m1\_matrix\_1 (k1\_matrix\_6 X0 X1 X2) (u1\_struct\_0 X1) X0 X0) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v33\_algstr\_0 X0)\wedge((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge(l6\_algstr\_0 X0))))))))))))\Rightarrow(\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 X0))))\Rightarrow(\forall X2.((v1\_matrix\_1 X2)\wedge(m2\_finseq\_1 X2 (k3\_finseq\_2 (u1\_struct\_0 X0))))\Rightarrow(k1\_matrix\_4 X0 X1 X2 = k3\_matrix\_3 X0 X1 (k2\_matrix\_3 X0 X2)))) \quad (13)$$

Assume the following.

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

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge((\neg v6\_struct\_0 X1)\wedge((v13\_algstr\_0 X1)\wedge((v33\_algstr\_0 X1)\wedge((v3\_group\_1 X1)\wedge((v5\_group\_1 X1)\wedge((v2\_rlvect\_1 X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 X1)\wedge((v4\_vectsp\_1 X1)\wedge((v5\_vectsp\_1 X1)\wedge(l6\_algstr\_0 X1))))))))))))\Rightarrow(\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 X1) X0 X0)\Rightarrow(\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0)\Rightarrow(((v1\_matrix16 X2 (u1\_struct\_0 X1))\wedge(v1\_matrix16 X3 (u1\_struct\_0 X1))))\Rightarrow(v1\_matrix16 (k3\_matrix\_6 X0 X1 X2 X3) (u1\_struct\_0 X1))))))$$