

t11\_matrix\_8  
(TMJqRjggi6tj2aSYNgiCp6mjZLDMajDmDyq)

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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  $v1\_matrix\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  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.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ( \\
& (v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
& X0)))) \Rightarrow (\forall X2. ((v1\_matrix\_1 X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 \\
& (u1\_struct\_0 X0)))) \Rightarrow (\forall X3. ((v1\_matrix\_1 X3) \wedge (m2\_finseq\_1 \\
& X3 (k3\_finseq\_2 (u1\_struct\_0 X0)))) \Rightarrow (((k1\_matrix\_1 X1 = k3\_finseq\_1 \\
& X2) \wedge (k1\_matrix\_1 X2 = k3\_finseq\_1 X3)) \Rightarrow (k4\_matrix\_3 X0 (k4\_matrix\_3 \\
& X0 X1 X2) X3 = k4\_matrix\_3 X0 X1 (k4\_matrix\_3 X0 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow ( \\ & \forall X2.(m1\_matrix\_1\ X2\ X1\ X0\ X0) \Rightarrow ((k3\_finseq\_1\ X2 = X0) \wedge ((k1\_matrix\_1 \\ & X2 = X0) \wedge (k2\_matrix\_1\ X2 = k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1 \\ & X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1\ X0) \wedge \\ & (((\neg v2\_struct\_0\ X1) \wedge ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge \\ & (v33\_algstr\_0\ X1) \wedge (v3\_group\_1\ X1) \wedge (v5\_group\_1\ X1) \wedge (v2\_rlvect\_1 \\ & X1) \wedge (v3\_rlvect\_1\ X1) \wedge (v4\_rlvect\_1\ X1) \wedge (v4\_vectsp\_1\ X1) \wedge \\ & (v5\_vectsp\_1\ X1) \wedge (l6\_algstr\_0\ X1)))))))))) \wedge ((m1\_matrix\_1 \\ & X2\ (u1\_struct\_0\ X1)\ X0\ X0) \wedge (m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0))) \Rightarrow \\ & (k4\_matrix\_6\ X0\ X1\ X2\ X3 = k4\_matrix\_3\ X1\ X2\ X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0) \Rightarrow (l1\_struct\_0\ X0) \quad (8)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((l2\_struct\_0\ X0) \wedge (l1\_algstr\_0\ X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1\ X0) \wedge \\ & (((\neg v2\_struct\_0\ X1) \wedge ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge \\ & (v33\_algstr\_0\ X1) \wedge (v3\_group\_1\ X1) \wedge (v5\_group\_1\ X1) \wedge (v2\_rlvect\_1 \\ & X1) \wedge (v3\_rlvect\_1\ X1) \wedge (v4\_rlvect\_1\ X1) \wedge (v4\_vectsp\_1\ X1) \wedge \\ & (v5\_vectsp\_1\ X1) \wedge (l6\_algstr\_0\ X1)))))))))) \wedge ((m1\_matrix\_1 \\ & X2\ (u1\_struct\_0\ X1)\ X0\ X0) \wedge (m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0))) \Rightarrow \\ & (m1\_matrix\_1\ (k4\_matrix\_6\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X1)\ X0\ X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(\neg v6\_struct\_0 \\
& X0)\wedge(v13\_algstr\_0 X0)\wedge(v33\_algstr\_0 X0)\wedge(v3\_group\_1 X0)\wedge \\
& ((v5\_group\_1 X0)\wedge(v2\_rlvect\_1 X0)\wedge(v3\_rlvect\_1 X0)\wedge(v4\_rlvect\_1 \\
& X0)\wedge(v4\_vectsp\_1 X0)\wedge(v5\_vectsp\_1 X0)\wedge(l6\_algstr\_0 X0))))))\wedge \\
& (((v1\_matrix\_1 X1)\wedge(m1\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
& X0))))\wedge(v1\_matrix\_1 X2)\wedge(m1\_finseq\_1 X2 (k3\_finseq\_2 (u1\_struct\_0 \\
& X0))))))\Rightarrow((v1\_matrix\_1 (k4\_matrix\_3 X0 X1 X2)\wedge(m2\_finseq\_1 \\
& (k4\_matrix\_3 X0 X1 X2) (k3\_finseq\_2 (u1\_struct\_0 X0))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \\
& ((\neg v6\_struct\_0 X1)\wedge(v13\_algstr\_0 X1)\wedge(v33\_algstr\_0 X1)\wedge( \\
& (v3\_group\_1 X1)\wedge(v5\_group\_1 X1)\wedge(v2\_rlvect\_1 X1)\wedge(v3\_rlvect\_1 \\
& X1)\wedge(v4\_rlvect\_1 X1)\wedge(v4\_vectsp\_1 X1)\wedge(v5\_vectsp\_1 X1)\wedge \\
& (l6\_algstr\_0 X1))))))\Rightarrow(\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\
& X1) X0 X0)\Rightarrow((v1\_matrix\_8 X2 X0 X1)\Leftrightarrow(k4\_matrix\_6 X0 X1 X2 X2 = X2)))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \\
& ((\neg v6\_struct\_0 X1)\wedge(v13\_algstr\_0 X1)\wedge(v33\_algstr\_0 X1)\wedge( \\
& (v3\_group\_1 X1)\wedge(v5\_group\_1 X1)\wedge(v2\_rlvect\_1 X1)\wedge(v3\_rlvect\_1 \\
& X1)\wedge(v4\_rlvect\_1 X1)\wedge(v4\_vectsp\_1 X1)\wedge(v5\_vectsp\_1 X1)\wedge \\
& (l6\_algstr\_0 X1))))))\Rightarrow(\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\
& X1) X0 X0)\Rightarrow(\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0)\Rightarrow \\
& ((r1\_matrix\_6 X0 X1 X2 X3)\Leftrightarrow(k4\_matrix\_3 X1 X2 X3 = k4\_matrix\_3 X1 \\
& X3 X2))))
\end{aligned} \tag{13}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \\
& ((\neg v6\_struct\_0 X1)\wedge(v13\_algstr\_0 X1)\wedge(v33\_algstr\_0 X1)\wedge( \\
& (v3\_group\_1 X1)\wedge(v5\_group\_1 X1)\wedge(v2\_rlvect\_1 X1)\wedge(v3\_rlvect\_1 \\
& X1)\wedge(v4\_rlvect\_1 X1)\wedge(v4\_vectsp\_1 X1)\wedge(v5\_vectsp\_1 X1)\wedge \\
& (l6\_algstr\_0 X1))))))\Rightarrow(\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\
& X1) X0 X0)\Rightarrow(\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0)\Rightarrow \\
& (((v1\_matrix\_8 X2 X0 X1)\wedge(v1\_matrix\_8 X3 X0 X1)\wedge(r1\_matrix\_6 \\
& X0 X1 X2 X3))\Rightarrow(v1\_matrix\_8 (k4\_matrix\_6 X0 X1 X2 X3) X0 X1))))
\end{aligned}$$