

## t1\_matrix\_8

(TMFJ8Hiyg3mojtjxTLbfT2zG6aYQJM8nc7R)

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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  $v1\_matrix\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_matrix\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k4\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ & ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\ & X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\ & (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\ & X1) X0 X0) \Rightarrow (k4\_matrix\_3 X1 (k12\_matrix\_1 X1 X0) X2 = X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1 X0) \wedge \\ & (((\neg v2\_struct\_0 X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v33\_algstr\_0 X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 \\ & X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge \\ & ((v5\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1)))))))))) \wedge ((m1\_matrix\_1 \\ & X2 (u1\_struct\_0 X1) X0 X0) \wedge (m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0))) \Rightarrow \\ & (k4\_matrix\_6 X0 X1 X2 X3 = k4\_matrix\_3 X1 X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \wedge \\ & (v7\_ordinal1 X1)) \Rightarrow (m1\_matrix\_1 (k12\_matrix\_1 X0 X1) (u1\_struct\_0 \\ & X0) X1 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\
& (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\
& (l6\_algstr\_0\ X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0 \\
& X1)\ X0\ X0) \Rightarrow ((v3\_matrix\_8\ X2\ X0\ X1) \Leftrightarrow (k4\_matrix\_6\ X0\ X1\ X2\ X2 = k12\_matrix\_1 \\
& X1\ X0)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\
& (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\
& (l6\_algstr\_0\ X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0 \\
& X1)\ X0\ X0) \Rightarrow ((v1\_matrix\_8\ X2\ X0\ X1) \Leftrightarrow (k4\_matrix\_6\ X0\ X1\ X2\ X2 = X2)))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\
& (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\
& (l6\_algstr\_0\ X1)))))))))) \Rightarrow ((v1\_matrix\_8\ (k12\_matrix\_1\ X1 \\
& X0)\ X0\ X1) \wedge (v3\_matrix\_8\ (k12\_matrix\_1\ X1\ X0)\ X0\ X1))
\end{aligned}$$