

## t6\_matrix\_8

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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  $k11\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\
 & ((\neg v2\_struct\_0 X2) \wedge ((\neg v6\_struct\_0 X2) \wedge (v13\_algstr\_0 X2) \wedge \\
 & (v33\_algstr\_0 X2) \wedge ((v3\_group\_1 X2) \wedge ((v5\_group\_1 X2) \wedge ((v2\_rlvect\_1 \\
 & X2) \wedge ((v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge ((v4\_vectsp\_1 X2) \wedge \\
 & ((v5\_vectsp\_1 X2) \wedge (l6\_algstr\_0 X2)))))))))) \Rightarrow (\forall X3. \\
 & (m1\_matrix\_1 X3 (u1\_struct\_0 X2) X0 X1) \Rightarrow (k3\_matrix\_3 X2 X3 (k1\_matrix\_3 \\
 & X2 X0 X1) = X3)))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& (\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\
& (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\
& (l6\_algstr\_0\ X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3.(m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0) \Rightarrow \\
& ((\neg r1\_xxreal\_0\ X0\ k6\_numbers) \Rightarrow ((r1\_matrix\_6\ X0\ X1\ X2\ X3) \Leftrightarrow (k4\_matrix\_6 \\
& X0\ X1\ (k2\_matrix\_6\ X0\ X1\ X2\ X3)\ (k2\_matrix\_6\ X0\ X1\ X2\ X3) = k2\_matrix\_6 \\
& X0\ X1\ (k2\_matrix\_6\ X0\ X1\ (k2\_matrix\_6\ X0\ X1\ (k4\_matrix\_6\ X0\ X1\ X2\ X2) \\
& (k4\_matrix\_6\ X0\ X1\ X2\ X3))\ (k4\_matrix\_6\ X0\ X1\ X2\ X3))\ (k4\_matrix\_6 \\
& X0\ X1\ X3\ X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1\ X0) \wedge \\
& (((\neg v2\_struct\_0\ X1) \wedge ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge \\
& ((v33\_algstr\_0\ X1) \wedge ((v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge \\
& ((v5\_vectsp\_1\ X1) \wedge (l6\_algstr\_0\ X1)))))))))) \wedge ((m1\_matrix\_1 \\
& X2\ (u1\_struct\_0\ X1)\ X0\ X0) \wedge (m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0))) \Rightarrow \\
& (k2\_matrix\_6\ X0\ X1\ X2\ X3 = k3\_matrix\_3\ X1\ X2\ X3)
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7\_ordinal1\ X0) \wedge \\
& (((\neg v2\_struct\_0\ X1) \wedge ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge \\
& ((v33\_algstr\_0\ X1) \wedge ((v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge \\
& ((v5\_vectsp\_1\ X1) \wedge (l6\_algstr\_0\ X1)))))))))) \wedge ((m1\_matrix\_1 \\
& X2\ (u1\_struct\_0\ X1)\ X0\ X0) \wedge (m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0))) \Rightarrow \\
& (m1\_matrix\_1\ (k2\_matrix\_6\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X1)\ X0\ X0)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l6\_algstr\_0\ X0)) \wedge \\
& (v7\_ordinal1\ X1)) \Rightarrow (m1\_matrix\_1\ (k11\_matrix\_1\ X0\ X1)\ (u1\_struct\_0 \\
& X0)\ X1\ X1)
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\
& ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\
& (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\
& (l6\_algstr\_0\ X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0 \\
& X1)\ X0\ X0) \Rightarrow ((v1\_matrix\_8\ X2\ X0\ X1) \Leftrightarrow (k4\_matrix\_6\ X0\ X1\ X2\ X2 = X2)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ( \\
& (v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (v7\_ordinal1 X1) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow (k1\_matrix\_3 \\
& X0 X1 X2 = k5\_finseq\_2 (k4\_finseq\_2 X2 (u1\_struct\_0 X0)) X1 (k5\_finseq\_2 \\
& (u1\_struct\_0 X0) X2 (k4\_struct\_0 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\
& (v7\_ordinal1 X1) \Rightarrow (k11\_matrix\_1 X0 X1 = k5\_finseq\_2 (k4\_finseq\_2 \\
& X1 (u1\_struct\_0 X0)) X1 (k5\_finseq\_2 (u1\_struct\_0 X0) X1 (k4\_struct\_0 \\
& X0))))
\end{aligned} \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\
& (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\
& X1) X0 X0) \Rightarrow (\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0) \Rightarrow \\
& (((v1\_matrix\_8 X2 X0 X1) \wedge ((v1\_matrix\_8 X3 X0 X1) \wedge ((r1\_matrix\_6 \\
& X0 X1 X2 X3) \wedge (k4\_matrix\_6 X0 X1 X2 X3 = k11\_matrix\_1 X1 X0)))) \Rightarrow ((r1\_xreal\_0 \\
& X0 k6\_numbers) \vee (v1\_matrix\_8 (k2\_matrix\_6 X0 X1 X2 X3) X0 X1))))))
\end{aligned}$$