

## t54\_matrix\_8

(TMRKdh9uM7ogXxkEfukX9KVhb88mzSiGfch)

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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  $k1\_matrix\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ & ((\neg v6\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v33\_algstr\_0 X1) \wedge \\ & (v3\_group\_1 X1) \wedge (v5\_group\_1 X1) \wedge (v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 \\ & X1) \wedge (v4\_rlvect\_1 X1) \wedge (v4\_vectsp\_1 X1) \wedge (v5\_vectsp\_1 X1) \wedge \\ & (l6\_algstr\_0 X1)))))) \Rightarrow (\forall X2.(m1\_matrix\_1 X2 (u1\_struct\_0 \\ & X1) X0 X0) \Rightarrow (\forall X3.(m1\_matrix\_1 X3 (u1\_struct\_0 X1) X0 X0) \Rightarrow \\ & (k1\_matrix\_8 X0 X1 (k2\_matrix\_6 X0 X1 X2 X3) = k3\_rlvect\_1 X1 (k1\_matrix\_8 \\ & X0 X1 X2) (k1\_matrix\_8 X0 X1 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\ & ((\neg v6\_struct\_0\ X1) \wedge (v13\_algstr\_0\ X1) \wedge (v33\_algstr\_0\ X1) \wedge \\ & (v3\_group\_1\ X1) \wedge (v5\_group\_1\ X1) \wedge (v2\_rlvect\_1\ X1) \wedge (v3\_rlvect\_1 \\ & X1) \wedge (v4\_rlvect\_1\ X1) \wedge (v4\_vectsp\_1\ X1) \wedge (v5\_vectsp\_1\ X1) \wedge \\ & (l6\_algstr\_0\ X1)))))) \Rightarrow (\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0 \\ & X1)\ X0\ X0) \Rightarrow (\forall X3.(m1\_matrix\_1\ X3\ (u1\_struct\_0\ X1)\ X0\ X0) \Rightarrow \\ & (\forall X4.(m1\_matrix\_1\ X4\ (u1\_struct\_0\ X1)\ X0\ X0) \Rightarrow (k1\_matrix\_8 \\ & X0\ X1\ (k2\_matrix\_6\ X0\ X1\ (k2\_matrix\_6\ X0\ X1\ X2\ X3)\ X4) = k3\_rlvect\_1 \\ & X1\ (k3\_rlvect\_1\ X1\ (k1\_matrix\_8\ X0\ X1\ X2)\ (k1\_matrix\_8\ X0\ X1\ X3)) \\ & (k1\_matrix\_8\ X0\ X1\ X4)))))) \end{aligned}$$