t2_matrix13 (TMJ1xX14QtiXLpNj5pPdJnMvDXcsi2WuW66)

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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 $v2\_matrix\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_matrix\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k4\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ 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. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_matrix\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_matrix\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_matrix\_1\ X2\ X1\ X0\ X0))) \Rightarrow (k5\_matrix\_1\ X0\ X1\ X2 = k4\_matrix\_1\ X1\ X2) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge ((v7\_ordinal1\ X1) \wedge (v7\_ordinal1\ X2))) \Rightarrow (\forall X3.(m1\_matrix\_1\ X3\ X0\ X1\ X2) \Rightarrow ((v1\_matrix\_1\ X3) \wedge (m2\_finseq\_1\ X3\ (k3\_finseq\_2\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_matrix\_1\ X2\ X1\ X0\ X0)))\Rightarrow(m1\_matrix\_1\ (k5\_matrix\_1\ X0\ X1\ X2)\ X1\ X0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_matrix\_1\ X1)\wedge(m2\_finseq\_1\ X1\ (k3\_finseq\_2\ X0)))\Rightarrow(\forall X2.((v1\_matrix\_1\ X2)\wedge(m2\_finseq\_1\ X2\ (k3\_finseq\_2\ X0)))\Rightarrow((X2 = k4\_matrix\_1\ X0\ X1)\Leftrightarrow((k3\_finseq\_1\ X2 = k1\_matrix\_1\ X1)\wedge((\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow((k4\_tarski\ X3\ X4\in k2\_matrix\_1\ X2)\Leftrightarrow(k4\_tarski\ X4\ X3\in k2\_matrix\_1\ X1))))\wedge(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow((k4\_tarski\ X4\ X3\in k2\_matrix\_1\ X1)\Rightarrow(k3\_matrix\_1\ X0\ X2\ X3\ X4 = k3\_matrix\_1\ X0\ X1\ X4\ X3)))))))))) \tag{8}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v6\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v33\_algstr\_0\ X1)\wedge((v3\_group\_1\ X1)\wedge((v5\_group\_1\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_1\ X1)\wedge((v5\_vectsp\_1\ X1)\wedge(l6\_algstr\_0\ X1))))))))))))\Rightarrow(\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0\ X1)\ X0\ X0)\Rightarrow((v2\_matrix\_2\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow((k4\_tarski\ X3\ X4\in k2\_matrix\_1\ X2)\Rightarrow((r1\_xxreal\_0\ X4\ X3)\vee(k3\_matrix\_1\ (u1\_struct\_0\ X1)\ X2\ X3\ X4 = k4\_struct\_0\ X1))))))))) \tag{9}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v6\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v33\_algstr\_0\ X1)\wedge((v3\_group\_1\ X1)\wedge((v5\_group\_1\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_1\ X1)\wedge((v5\_vectsp\_1\ X1)\wedge(l6\_algstr\_0\ X1))))))))))))\Rightarrow(\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0\ X1)\ X0\ X0)\Rightarrow((v1\_matrix\_2\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow((k4\_tarski\ X3\ X4\in k2\_matrix\_1\ X2)\Rightarrow((r1\_xxreal\_0\ X3\ X4)\vee(k3\_matrix\_1\ (u1\_struct\_0\ X1)\ X2\ X3\ X4 = k4\_struct\_0\ X1))))))))) \tag{10}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v6\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v33\_algstr\_0\ X1)\wedge((v3\_group\_1\ X1)\wedge((v5\_group\_1\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_1\ X1)\wedge((v5\_vectsp\_1\ X1)\wedge(l6\_algstr\_0\ X1))))))))))))\Rightarrow(\forall X2.(m1\_matrix\_1\ X2\ (u1\_struct\_0\ X1)\ X0\ X0)\Rightarrow(((v2\_matrix\_2\ X2\ X0\ X1)\wedge(m1\_matrix\_1\ X2\ (u1\_struct\_0\ X1)\ X0\ X0))\Leftrightarrow((v1\_matrix\_2\ (k5\_matrix\_1\ X0\ (u1\_struct\_0\ X1)\ X2)\ X0\ X1)\wedge(m1\_matrix\_1\ (k5\_matrix\_1\ X0\ (u1\_struct\_0\ X1)\ X2)\ (u1\_struct\_0\ X1)\ X0\ X0)))))$$