t53_matrix15 (TMPnRdVL2Fbi3JPwHBtua5jvQJ1r9Foe36V)

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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 $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v5\_vectsp\_1 : \iota \Rightarrow o$ 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 $l6\_algstr\_0 : \iota \Rightarrow o$ 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 $k4\_matrix15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_matrix\_1 : \iota \Rightarrow \iota$ 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 $v7\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_zfmisc\_1 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l4\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l4\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k4\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_setfam\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v1\_matrix\_1\ X2) \wedge (m2\_finseq\_1\ X2\ (k3\_finseq\_2\ X1))) \Rightarrow ((k3\_finseq\_1\ X2 = X0) \Rightarrow (m1\_matrix\_1\ X2\ X1\ X0\ (k1\_matrix\_1\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. (\neg v1\_xboole\_0\ X2) \Rightarrow ((\neg r1\_xxreal\_0\ X0\ k1\_xboole\_0) \Rightarrow (\forall X3. (m1\_matrix\_1\ X3\ X2\ X0\ X1) \Rightarrow ((k3\_finseq\_1\ X3 = X0) \wedge ((k1\_matrix\_1\ X3 = X1) \wedge (k2\_matrix\_1\ X3 = k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X1)))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_zfmisc\_1\ (u1\_struct\_0\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((v7\_ordinal1\ X1)\wedge(v7\_ordinal1\ X2)))\Rightarrow(\forall X3.(m1\_matrix\_1\ X3\ X0\ X1\ X2)\Rightarrow((v1\_matrix\_1\ X3)\wedge(m2\_finseq\_1\ X3\ (k3\_finseq\_2\ X0)))) \tag{4}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l5\_algstr\_0\ X0)\Rightarrow((l4\_algstr\_0\ X0)\wedge(l4\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v33\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.((v1\_matrix\_1\ X1)\wedge(m2\_finseq\_1\ X1\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X2.((v1\_matrix\_1\ X2)\wedge(m2\_finseq\_1\ X2\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))))\Rightarrow(k4\_matrix15\ X0\ X1\ X2 = ReplSep\ (toset\ (\lambda X3 : \iota.(v1\_matrix\_1\ X3)\wedge(m2\_finseq\_1\ X3\ (k3\_finseq\_2\ (u1\_struct\_0\ X0)))))\ (\lambda X3 : \iota.(k3\_finseq\_1\ X3 = k1\_matrix\_1\ X1)\wedge((k1\_matrix\_1\ X3 = k1\_matrix\_1\ X2)\wedge(k4\_matrix\_3\ X0\ X1\ X3 = X2)))\ (\lambda X3 : \iota.X3)))) \tag{9}$$

Assume the following.

$$\forall X0.(\neg v1\_zfmisc\_1\ X0)\Rightarrow(\neg v2\_setfam\_1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(l4\_struct\_0\ X0)\Rightarrow((\neg v6\_struct\_0\ X0)\Rightarrow(\neg v7\_struct\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\neg v1\_xboole\_0\ X0) \tag{12}$$

Theorem 1

$$\forall X0.\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.((\neg v2\_struct\_0\ X4)\wedge((\neg v6\_struct\_0\ X4)\wedge((v13\_algstr\_0\ X4)\wedge((v33\_algstr\_0\ X4)\wedge((v3\_group\_1\ X4)\wedge((v5\_group\_1\ X4)\wedge((v4\_vectsp\_1\ X4)\wedge((v5\_vectsp\_1\ X4)\wedge((v2\_rlvect\_1\ X4)\wedge((v3\_rlvect\_1\ X4)\wedge((v4\_rlvect\_1\ X4)\wedge(l6\_algstr\_0\ X4))))))))))))\Rightarrow(\forall X5.(m1\_matrix\_1\ X5\ (u1\_struct\_0\ X4)\ X1\ X2)\Rightarrow(\forall X6.(m1\_matrix\_1\ X6\ (u1\_struct\_0\ X4)\ X1\ X3)\Rightarrow((X0\in k4\_matrix15\ X4\ X5\ X6)\Rightarrow((r1\_xxreal\_0\ X1\ k1\_xboole\_0)\vee(m1\_matrix\_1\ X0\ (u1\_struct\_0\ X4)\ X2\ X3))))))))$$