

## t15\_matrix\_5

(TMNM9U5bGYo1rMAPPcTAP3KG8TtwCRmbkCu)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_matrix\_5 : \iota \Rightarrow \iota$  be given. Let  $k8\_matrix\_5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_complfld : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  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  $v36\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v6\_vectsp\_1 : \iota \Rightarrow o$  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  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $l6\_algstr\_0 : \iota \Rightarrow o$  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  $k2\_numbers : \iota$  be given. Let  $k2\_matrix\_5 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (2)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (3)$$

Assume the following.

$$\begin{aligned} & (\neg v6\_struct\_0 \ k1\_complfld) \wedge ((v13\_algstr\_0 \ k1\_complfld) \wedge (( \\ & v33\_algstr\_0 \ k1\_complfld) \wedge ((v36\_algstr\_0 \ k1\_complfld) \wedge ((v3\_group\_1 \\ & k1\_complfld) \wedge ((v5\_group\_1 \ k1\_complfld) \wedge ((v3\_vectsp\_1 \ k1\_complfld) \wedge \\ & ((v5\_vectsp\_1 \ k1\_complfld) \wedge ((v6\_vectsp\_1 \ k1\_complfld) \wedge ((v2\_rlvect\_1 \\ & k1\_complfld) \wedge ((v3\_rlvect\_1 \ k1\_complfld) \wedge (v4\_rlvect\_1 \ k1\_complfld)))))))))) \\ & \hspace{15em} (4) \end{aligned}$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 \ X0) \wedge (l1\_struct\_0 \ X0)) \Rightarrow (\neg v1\_xboole\_0 \ (u1\_struct\_0 \ X0)) \quad (5)$$

Assume the following.

$$(v36\_algstr\_0 \ k1\_complfld) \wedge (v4\_vectsp\_1 \ k1\_complfld) \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (7)$$

Assume the following.

$$(\neg v2\_struct\_0 \ k1\_complfld) \wedge (v36\_algstr\_0 \ k1\_complfld) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X0) \wedge ((v7\_ordinal1 \\ & X1) \wedge (v7\_ordinal1 \ X2))) \Rightarrow (\forall X3. (m1\_matrix\_1 \ X3 \ X0 \ X1 \ X2) \Rightarrow \\ & ((v1\_matrix\_1 \ X3) \wedge (m2\_finseq\_1 \ X3 \ (k3\_finseq\_2 \ X0)))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0. (l6\_algstr\_0 \ X0) \Rightarrow ((l2\_algstr\_0 \ X0) \wedge (l5\_algstr\_0 \ X0)) \quad (10)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 \ X0) \Rightarrow (l1\_struct\_0 \ X0) \quad (11)$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 \ X0) \Rightarrow ((l2\_struct\_0 \ X0) \wedge (l1\_algstr\_0 \ X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (v7\_ordinal1 \ X1)) \Rightarrow ( \\ & (v1\_matrix\_1 \ (k8\_matrix\_5 \ X0 \ X1)) \wedge (m2\_finseq\_1 \ (k8\_matrix\_5 \\ & X0 \ X1) \ (k3\_finseq\_2 \ k2\_numbers))) \quad (13) \end{aligned}$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (\neg v6\_struct\_0 \\ & X0) \wedge (v13\_algstr\_0 X0) \wedge (v33\_algstr\_0 X0) \wedge (v3\_group\_1 X0) \wedge \\ & ((v5\_group\_1 X0) \wedge (v2\_rlvect\_1 X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 \\ & X0) \wedge (v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))) \wedge \\ & ((v7\_ordinal1 X1) \wedge (v7\_ordinal1 X2)) \Rightarrow (m1\_matrix\_1 (k1\_matrix\_3 \\ & X0 X1 X2) (u1\_struct\_0 X0) X1 X2) \end{aligned} \quad (15)$$

Assume the following.

$$(v36\_algstr\_0 k1\_complfld) \wedge (l6\_algstr\_0 k1\_complfld) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow (k8\_matrix\_5 \\ & X0 X1 = k2\_matrix\_5 (k1\_matrix\_3 k1\_complfld X0 X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_matrix\_1 X0) \wedge (m2\_finseq\_1 X0 (k3\_finseq\_2 (u1\_struct\_0 \\ & k1\_complfld)))) \Rightarrow (k2\_matrix\_5 X0 = X0) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_matrix\_1 X0) \wedge (m2\_finseq\_1 X0 (k3\_finseq\_2 k2\_numbers))) \Rightarrow \\ & (k1\_matrix\_5 X0 = X0) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (20)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (k1\_matrix\_5 (k8\_matrix\_5 \\ & X0 X1) = k1\_matrix\_3 k1\_complfld X0 X1)) \end{aligned}$$