

t25\_matrlin  
(TMSmepGShLjEPFj6GWQCEQEnZd2uXRUN6Yr)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_matrlin : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (( \\ v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2)))) \Rightarrow ((X0 \in k4\_finseq\_1 X1) \Rightarrow \\ (k2\_nat\_1 (k3\_finseq\_1 X2) X0 \in k4\_finseq\_1 (k7\_finseq\_1 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_matrix\_1 X1) \wedge \\ (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow (\forall X2.(v7\_ordinal1 \\ X2) \Rightarrow ((X2 \in k4\_finseq\_1 X1) \Rightarrow (k1\_funct\_1 X1 X2 = k8\_matrix\_1 X0 X1 \\ X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge ((v7\_ordinal1 X2) \wedge ((v7\_ordinal1 \\ X3) \wedge ((m1\_matrix\_1 X4 X0 X1 X3) \wedge (m1\_matrix\_1 X5 X0 X2 X3)))))) \Rightarrow ( \\ k8\_matrlin X0 X1 X2 X3 X4 X5 = k7\_finseq\_1 X4 X5) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (v7\_ordinal1 (k2\_xcmplx\_0 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ((v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge (v7\_ordinal1 X2))) \Rightarrow (\forall X3. (m1\_matrix\_1 X3 X0 X1 X2) \Rightarrow ((v1\_matrix\_1 X3) \wedge (m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge ((v7\_ordinal1 X2) \wedge ((v7\_ordinal1 X3) \wedge ((m1\_matrix\_1 X4 X0 X1 X3) \wedge (m1\_matrix\_1 X5 X0 X2 X3)))))) \Rightarrow (m1\_matrix\_1 (k8\_matrlin X0 X1 X2 X3 X4 X5) X0 (k2\_xcmplx\_0 X1 X2) X3) \quad (10)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2)))) \Rightarrow ((X2 = k7\_finseq\_1 X0 X1) \Leftrightarrow ((k4\_finseq\_1 X2 = k2\_finseq\_1 (k2\_nat\_1 (k3\_finseq\_1 X0) (k3\_finseq\_1 X1)))) \wedge ((\forall X3. (v7\_ordinal1 X3) \Rightarrow ((X3 \in k4\_finseq\_1 X0) \Rightarrow (k1\_funct\_1 X2 X3 = k1\_funct\_1 X0 X3)))) \wedge ((\forall X3. (v7\_ordinal1 X3) \Rightarrow ((X3 \in k4\_finseq\_1 X1) \Rightarrow (k1\_funct\_1 X2 (k2\_nat\_1 (k3\_finseq\_1 X0) X3) = k1\_funct\_1 X1 X3)))))) \quad (11)$$

**Theorem 1**

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow (\forall X5. (\neg v1\_xboole\_0 X5) \Rightarrow (\forall X6. (m1\_matrix\_1 X6 X5 X0 X1) \Rightarrow (\forall X7. (m1\_matrix\_1 X7 X5 X2 X1) \Rightarrow ((X3 \in k9\_xtuple\_0 X7) \wedge (X4 = k2\_nat\_1 (k3\_finseq\_1 X6) X3)) \Rightarrow (k8\_matrix\_1 X5 (k8\_matrlin X5 X0 X2 X1 X6 X7) X4 = k8\_matrix\_1 X5 X7 X3))))))))))$$