

# l42\_matrix15 (TMLSaYbBACkzLi- CRTZw8JGTbhETuo6TTKYA)

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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  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_matrix\_1 X1) \wedge \\ (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow (\forall X2.((v1\_matrix\_1 \\ X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 X0))) \Rightarrow (((k4\_matrix\_1 X0 X1 = \\ k4\_matrix\_1 X0 X2) \wedge (k3\_finseq\_1 X1 = k3\_finseq\_1 X2)) \Rightarrow (X1 = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_card\_1 X0)) \wedge \\ (v1\_card\_1 (k1\_card\_1 X0))) \quad (5)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (6)$$

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.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_matrix\_1 X1)\wedge(m1\_finseq\_1 X1 (k3\_finseq\_2 X0))))\Rightarrow((v1\_matrix\_1 (k4\_matrix\_1 X0 X1))\wedge(m2\_finseq\_1 (k4\_matrix\_1 X0 X1) (k3\_finseq\_2 X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 X0)))\Rightarrow(\forall X2.((v1\_matrix\_1 X2)\wedge(m2\_finseq\_1 X2 (k3\_finseq\_2 X0)))\Rightarrow((X2 = k4\_matrix\_1 X0 X1)\Leftrightarrow((k3\_finseq\_1 X2 = k1\_matrix\_1 X1)\wedge((\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((k4\_tarski X3 X4 \in k2\_matrix\_1 X2)\Leftrightarrow(k4\_tarski X4 X3 \in k2\_matrix\_1 X1))))\wedge(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((k4\_tarski X4 X3 \in k2\_matrix\_1 X1)\Rightarrow(k3\_matrix\_1 X0 X2 X3 X4 = k3\_matrix\_1 X0 X1 X4 X3)))))))))) \end{aligned} \quad (10)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_matrix\_1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 X0)))\Rightarrow(\forall X2.((v1\_matrix\_1 X2)\wedge(m2\_finseq\_1 X2 (k3\_finseq\_2 X0)))\Rightarrow(((k3\_finseq\_1 X1 = k3\_finseq\_1 X2)\wedge((k1\_matrix\_1 X1 = k1\_xboole\_0)\wedge(k1\_matrix\_1 X2 = k1\_xboole\_0))\Rightarrow(X1 = X2))))))$$