

t29\_matrixr2  
(TMHQK2h1dT4NGE1FrAgSnxMXHPycixa97ik)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  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  $v1\_xxreal\_0 : \iota \Rightarrow o$  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  $k4\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  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  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (r1\_xxreal\_0 k6\_numbers X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ( \\ \forall X2.(m1\_matrix\_1 X2 X1 X0 X0) \Rightarrow ((k3\_finseq\_1 X2 = X0) \wedge ((k1\_matrix\_1 \\ X2 = X0) \wedge (k2\_matrix\_1 X2 = k2\_zfmisc\_1 (k2\_finseq\_1 X0) (k2\_finseq\_1 \\ X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ (r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_matrix\_1 X1) \wedge \\ (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow (\neg(\neg r1\_xxreal\_0 (k3\_finseq\_1 \\ X1) k6\_numbers) \wedge ((\neg r1\_xxreal\_0 (k1\_matrix\_1 X1) k6\_numbers) \wedge \\ (k4\_matrix\_1 X0 (k4\_matrix\_1 X0 X1) \neq X1)))) \end{aligned} \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (7)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0) \wedge ((\neg v1\_xboole\_0 \\ X1) \wedge (m1\_matrix\_1 X2 X1 X0 X0))) \Rightarrow (k5\_matrix\_1 X0 X1 X2 = k4\_matrix\_1 \\ X1 X2) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (k3\_finseq\_1 X0 = k1\_card\_1 X0) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \exists X0.(v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xxreal\_0 \\ X0) \wedge (v1\_xreal\_0 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_card\_1 X0)) \wedge \\ (v1\_card\_1 (k1\_card\_1 X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge \\ (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v7\_ordinal1 X1)\wedge(v7\_ordinal1 X2)))\Rightarrow(\forall X3.(m1\_matrix\_1 X3 X0 X1 X2)\Rightarrow((v1\_matrix\_1 X3)\wedge(m2\_finseq\_1 X3 (k3\_finseq\_2 X0)))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_matrix\_1 X2 X1 X0 X0)))\Rightarrow(m1\_matrix\_1 (k5\_matrix\_1 X0 X1 X2) X1 X0 X0) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(v7\_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (21)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k5\_numbers)\Rightarrow(\forall X2.(m1\_matrix\_1 X2 X0 X1 X1)\Rightarrow(k5\_matrix\_1 X1 X0 (k5\_matrix\_1 X1 X0 X2) = X2)))$$