t33_matrix13 (TM-STT5VCpW6jbTWqBdUVMQfFVHx7GxRjaig)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ 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 $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_finseq\_1 : \iota \Rightarrow \iota$ 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 $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_matrix13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_matrix11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_matrix\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_matrix\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski\ X0\ X1 \in k2\_zfmisc\_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0)) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0))))))) \Rightarrow (\forall X4.(m1\_matrix\_1\ X4\ X2\ X0\ X1) \Rightarrow ((k2\_matrix\_1\ X4 = k2\_matrix\_1\ (k4\_matrix11\ X0\ X1\ X2\ X3\ X4)) \wedge (\forall X5.(v7\_ordinal1\ X5) \Rightarrow (\forall X6.(v7\_ordinal1\ X6) \Rightarrow (\neg (k4\_tarski\ X5\ X6 \in k2\_matrix\_1\ X4) \wedge (\forall X7.(v7\_ordinal1\ X7) \Rightarrow (\neg (k1\_funct\_1\ X3\ X5 = X7) \wedge ((k4\_tarski\ X7\ X6 \in k2\_matrix\_1\ X4) \wedge (k3\_matrix\_1\ X2\ (k4\_matrix11\ X0\ X1\ X2\ X3\ X4)\ X5\ X6 = k3\_matrix\_1\ X2\ X4\ X7\ X6)))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m1\_matrix\_1\ X3\ X2\ X0\ X1)\Rightarrow(\forall X4.(m1\_matrix\_1\ X4\ X2\ X0\ X1)\Rightarrow((\forall X5.(v7\_ordinal1\ X5)\Rightarrow(\forall X6.(v7\_ordinal1\ X6)\Rightarrow((k4\_tarski\ X5\ X6\in k2\_matrix\_1\ X3)\Rightarrow(k3\_matrix\_1\ X2\ X3\ X5\ X6 = k3\_matrix\_1\ X2\ X4\ X5\ X6))))\Rightarrow(X3 = X4))))))) \tag{3}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m1\_matrix\_1\ X3\ X2\ X0\ X1)\Rightarrow(\forall X4.(m1\_matrix\_1\ X4\ X2\ X0\ X1)\Rightarrow(k2\_matrix\_1\ X3 = k2\_matrix\_1\ X4))))) \tag{4}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m1\_matrix\_1\ X3\ X2\ X0\ X1)\Rightarrow((k3\_finseq\_1\ X3 = X0)\wedge(k2\_matrix\_1\ X3 = k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ (k1\_matrix\_1\ X3))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X0\in k9\_xtuple\_0\ (k3\_relat\_1\ X2\ X1))\Rightarrow(k1\_funct\_1\ (k3\_relat\_1\ X2\ X1)\ X0 = k1\_funct\_1\ X1\ (k1\_funct\_1\ X2\ X0)))) \tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.((v3\_card\_1\ X2\ X0)\wedge(m2\_finseq\_1\ X2\ X1))\Rightarrow(k4\_finseq\_1\ X2 = k2\_finseq\_1\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Leftrightarrow(m1\_finseq\_1\ X1\ X0) \tag{9}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7\_ordinal1\ X0)\wedge((v7\_ordinal1\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0))))))\wedge(m1\_matrix\_1\ X4\ X2\ X0\ X1)))))\Rightarrow(k4\_matrix11\ X0\ X1\ X2\ X3\ X4 = k3\_relat\_1\ X3\ X4) \tag{11}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(k4\_finseq\_1\ X0 = k9\_xtuple\_0\ X0) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X3)))))\Rightarrow(k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5 = k3\_relat\_1\ X4\ X5) \tag{13}$$

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1)\wedge(v3\_ordinal1\ k4\_ordinal1) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Rightarrow(m2\_finseq\_1\ X2\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow((v1\_funct\_1\ X1)\wedge((v1\_finseq\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0))))) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7\_ordinal1\ X0)\wedge((v7\_ordinal1\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1\ X0)\ (k2\_finseq\_1\ X0))))))\wedge(m1\_matrix\_1\ X4\ X2\ X0\ X1)))))\Rightarrow(m1\_matrix\_1\ (k4\_matrix11\ X0\ X1\ X2\ X3\ X4)\ X2\ X0\ X1) \tag{18}$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k4\_finseq\_2\ X0\ X1)\ X1) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.\ ((\neg v1\_xboole\_0\ X0)\wedge(((v1\_matrix\_1\ X1)\wedge(m1\_finseq\_1\ X1\ (k3\_finseq\_2\ X0)))\wedge((v7\_ordinal1\ X2)\wedge((v7\_ordinal1\ X3)\wedge((m1\_subset\_1\ X4\ (k4\_finseq\_2\ X2\ k5\_numbers))\wedge(m1\_subset\_1\ X5\ (k4\_finseq\_2\ X3\ k5\_numbers)))))))\Rightarrow(m1\_matrix\_1\ (k1\_matrix13\ X0\ X1\ X2\ X3\ X4\ X5)\ X0\ X2\ X3) \tag{20}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_matrix\_1\ X1)\wedge(m2\_finseq\_1\ X1\ (k3\_finseq\_2\ X0)))\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.(m2\_finseq\_2\ X4\ k5\_numbers\ (k4\_finseq\_2\ X2\ k5\_numbers))\Rightarrow(\forall X5.(m2\_finseq\_2\ X5\ k5\_numbers\ (k4\_finseq\_2\ X3\ k5\_numbers))\Rightarrow(\forall X6.(m1\_matrix\_1\ X6\ X0\ X2\ X3)\Rightarrow((X6 = k1\_matrix13\ X0\ X1\ X2\ X3\ X4\ X5)\Leftrightarrow(\forall X7.(v7\_ordinal1\ X7)\Rightarrow(\forall X8.(v7\_ordinal1\ X8)\Rightarrow((k4\_tarski\ X7\ X8\in k2\_matrix\_1\ X6)\Rightarrow(k3\_matrix\_1\ X0\ X6\ X7\ X8 = k3\_matrix\_1\ X0\ X1\ (k1\_funct\_1\ X4\ X7)\ (k1\_funct\_1\ X5\ X8)))))))))))) \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{22}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X1\ X0))\Rightarrow(v3\_card\_1\ X2\ X1)) \tag{23}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\forall X3.((v1\_matrix\_1\ X3)\wedge(m2\_finseq\_1\ X3\ (k3\_finseq\_2\ X0)))\Rightarrow(\forall X4.(m2\_finseq\_2\ X4\ k5\_numbers\ (k4\_finseq\_2\ X2\ k5\_numbers))\Rightarrow(\forall X5.(m2\_finseq\_2\ X5\ k5\_numbers\ (k4\_finseq\_2\ X2\ k5\_numbers))\Rightarrow(\forall X6.(m2\_finseq\_2\ X6\ k5\_numbers\ (k4\_finseq\_2\ X1\ k5\_numbers))\Rightarrow(\forall X7.((v1\_funct\_1\ X7)\wedge((v1\_funct\_2\ X7\ (k2\_finseq\_1\ X2)\ (k2\_finseq\_1\ X2))\wedge(m1\_subset\_1\ X7\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_finseq\_1\ X2)\ (k2\_finseq\_1\ X2))))))\Rightarrow((X4 = k1\_partfun1\ (k2\_finseq\_1\ X2)\ (k2\_finseq\_1\ X2)\ k5\_numbers\ k5\_numbers\ X7\ X5)\Rightarrow(k1\_matrix13\ X0\ X3\ X2\ X1\ X4\ X6 = k4\_matrix11\ X2\ X1\ X0\ X7\ (k1\_matrix13\ X0\ X3\ X2\ X1\ X5\ X6)))))))))$$