

## t46\_matrixc1

(TMYg9oLcMJWnStGzg4mqR6FJx7V4xq82sFc)

October 27, 2020

Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k17\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k27\_binop\_2 : \iota$  be given. Let  $v1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow \\ & \quad (\forall X2. (m2\_finseq\_1 X2 X0) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge \\ & \quad ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & \quad (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))) \Rightarrow ((v2\_binop\_1 X3 X0) \Rightarrow \\ & \quad (((\neg v1\_setwiseo X3 X0) \wedge (\neg (r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1))) \wedge \\ & \quad (r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X2)))) \vee (k1\_finsop\_1 X0 (k8\_finseq\_1 \\ & \quad X0 X1 X2) X3 = k5\_binop\_1 X0 X3 (k1\_finsop\_1 X0 X1 X3) (k1\_finsop\_1 \\ & \quad X0 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X1) \wedge \\ & \quad ((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & \quad (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))) \wedge ((m1\_subset\_1 X2 X0) \wedge \\ & \quad (m1\_subset\_1 X3 X0))) \Rightarrow (k5\_binop\_1 X0 X1 X2 X3 = k1\_binop\_1 X1 X2 X3) \end{aligned} \tag{3}$$

Assume the following.

$$\neg v1\_xboole\_0 k2\_numbers \tag{4}$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge ((v1\_binop\_1\ k27\_binop\_2\ k2\_numbers) \wedge (v2\_binop\_1\ k27\_binop\_2\ k2\_numbers))) \quad (5)$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge (v1\_setwiseo\ k27\_binop\_2\ k2\_numbers)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1\ X1\ X0) \wedge (m1\_finseq\_1\ X2\ X0)) \Rightarrow (m2\_finseq\_1\ (k8\_finseq\_1\ X0\ X1\ X2)\ X0) \quad (7)$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge (m1\_subset\_1\ k27\_binop\_2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers)))) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_finseq\_1\ X0\ k2\_numbers) \Rightarrow (m1\_subset\_1\ (k17\_rvsum\_1\ X0)\ k2\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers)))))) \Rightarrow ((X0 = k27\_binop\_2) \Leftrightarrow (\forall X1.(v1\_xcmplx\_0\ X1) \Rightarrow (\forall X2.(v1\_xcmplx\_0\ X2) \Rightarrow (k1\_binop\_1\ X0\ X1\ X2 = k3\_binop\_2\ X1\ X2)))) \quad (10)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ k2\_numbers) \Rightarrow (k17\_rvsum\_1\ X0 = k1\_finsop\_1\ k2\_numbers\ X0\ k27\_binop\_2) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k2\_numbers) \Rightarrow (v1\_xcmplx\_0\ X0) \quad (12)$$

**Theorem 1**

$$\forall X0.(m2\_finseq\_1\ X0\ k2\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_1\ X1\ k2\_numbers) \Rightarrow (k17\_rvsum\_1\ (k8\_finseq\_1\ k2\_numbers\ X0\ X1) = k3\_binop\_2\ (k17\_rvsum\_1\ X0)\ (k17\_rvsum\_1\ X1)))$$