

## t53\_matrixr1

(TMUqQmmi64aRpPGRKzWh42E7NpyvZpSLgP4)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1.((v1\_matrix\_1 \\ X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 k1\_numbers))) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\ (k3\_finseq\_1 X1) k6\_numbers) \wedge ((\neg r1\_xxreal\_0 (k1\_matrix\_1 X1) \\ k6\_numbers) \wedge (((k3\_finseq\_1 X1 = k3\_finseq\_1 X0) \vee (k1\_matrix\_1 \\ (k4\_matrix\_1 k1\_numbers X1) = k3\_finseq\_1 X0)) \wedge (k11\_matrixr1 \\ (k4\_matrix\_1 k1\_numbers X1) X0 \neq k12\_matrixr1 X1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_matrix\_1 X1) \wedge \\ (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow (\neg(\neg r1\_xxreal\_0 (k3\_finseq\_1 \\ X1) k6\_numbers) \wedge ((\neg r1\_xxreal\_0 (k1\_matrix\_1 X1) k6\_numbers) \wedge \\ (k4\_matrix\_1 X0 (k4\_matrix\_1 X0 X1) \neq X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_matrix\_1 X1) \wedge \\ (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow ((\neg r1\_xxreal\_0 (k1\_matrix\_1 \\ X1) k6\_numbers) \Rightarrow ((k3\_finseq\_1 (k4\_matrix\_1 X0 X1) = k1\_matrix\_1 \\ X1) \wedge (k1\_matrix\_1 (k4\_matrix\_1 X0 X1) = k3\_finseq\_1 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (4)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_matrix\_1 X1) \wedge \\ & (m1\_finseq\_1 X1 (k3\_finseq\_2 X0)))) \Rightarrow ((v1\_matrix\_1 (k4\_matrix\_1 \\ & X0 X1)) \wedge (m2\_finseq\_1 (k4\_matrix\_1 X0 X1) (k3\_finseq\_2 X0))) \end{aligned} \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1. ((v1\_matrix\_1 \\ & X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 k1\_numbers))) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\ & (k3\_finseq\_1 X1) k6\_numbers) \wedge ((\neg r1\_xxreal\_0 (k1\_matrix\_1 X1) \\ & k6\_numbers) \wedge (((k1\_matrix\_1 X1 = k3\_finseq\_1 X0) \vee (k3\_finseq\_1 \\ & (k4\_matrix\_1 k1\_numbers X1) = k3\_finseq\_1 X0)) \wedge (k11\_matrixr1 \\ & X1 X0 \neq k12\_matrixr1 (k4\_matrix\_1 k1\_numbers X1) X0)))))) \end{aligned}$$