

t1\_matrprob  
(TMFq1xVgb527z8ai7zpsCh669LoA9XFAfQg)

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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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.\forall X2.(X2 \in k2\_finseq\_1 \\ X0) \Rightarrow (k1\_funct\_1 (k2\_finseq\_2 X0 X1) X2 = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ X1)))) \Rightarrow (((k4\_finseq\_1 X0 = k4\_finseq\_1 X1) \wedge (\forall X2.(v7\_ordinal1 \\ X2) \Rightarrow ((X2 \in k4\_finseq\_1 X0) \Rightarrow (k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2)))) \Rightarrow \\ (X0 = X1)) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 \\ X1) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow (k5\_finseq\_2 X0 X1 X2 = k2\_finseq\_2 X1 \\ X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (v7\_ordinal1 X0) \Rightarrow ((v1\_relat\_1 (k2\_finseq\_2 X0 X1)) \wedge ((v1\_funct\_1 (k2\_finseq\_2 X0 X1)) \wedge ((v3\_card\_1 (k2\_finseq\_2 X0 X1) X0) \wedge (v1\_finseq\_1 (k2\_finseq\_2 X0 X1)))))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ((v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (m2\_subset\_1 (k3\_finseq\_1 X0) k1\_numbers k5\_numbers) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (v3\_card\_1 X1 X0) \Leftrightarrow (k1\_card\_1 X1 = X0) \quad (11)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow ((X1 = k3\_finseq\_1 X0) \Leftrightarrow (k2\_finseq\_1 X1 = k9\_xtuple\_0 X0))) \quad (12)$$

**Theorem 1**

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (\forall X2. ((\neg v1\_xboole\_0 X2) \wedge (v7\_ordinal1 X2)) \Rightarrow (\forall X3. (m2\_finseq\_1 X3 X0) \Rightarrow (((k3\_finseq\_1 X3 = X2) \wedge (\forall X4. (v7\_ordinal1 X4) \Rightarrow ((X4 \in k4\_finseq\_1 X3) \Rightarrow (k1\_funct\_1 X3 X4 = X1)))))) \Leftrightarrow (X3 = k5\_finseq\_2 X0 X2 X1))))))$$