

# t37\_matrprob

## (TMG2erLNSd2t8oHEg4EjEhna6dDTbYunUv4)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_vectsp\_1 : \iota$  be given. Let  $k22\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k18\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k14\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k11\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v36\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_1 \\ & X1 (u1\_struct\_0 k2\_vectsp\_1)) \Rightarrow ((X0 = X1) \Rightarrow (k18\_rvsum\_1 X0 = k4\_rlvect\_1 \\ & k2\_vectsp\_1 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (\forall X2. \\ & (m2\_finseq\_2 X2 k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (\forall X3. \\ & (m2\_finseq\_2 X3 (u1\_struct\_0 k2\_vectsp\_1) (k4\_finseq\_2 X0 (u1\_struct\_0 \\ & k2\_vectsp\_1))) \Rightarrow (\forall X4.(m2\_finseq\_2 X4 (u1\_struct\_0 k2\_vectsp\_1) \\ & (k4\_finseq\_2 X0 (u1\_struct\_0 k2\_vectsp\_1))) \Rightarrow (((X1 = X3) \wedge (X2 = \\ & X4)) \Rightarrow (k15\_rvsum\_1 X0 X1 X2 = k12\_fvsum\_1 X0 k2\_vectsp\_1 X3 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0)\Rightarrow(\forall X2.(m2\_finseq\_2 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge((m1\_subset\_1 X1 (k4\_finseq\_2 X0 k1\_numbers))\wedge(m1\_subset\_1 X2 (k4\_finseq\_2 X0 k1\_numbers))))\Rightarrow(k15\_rvsum\_1 X0 X1 X2 = k18\_valued\_1 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k14\_rvsum\_1 X0 X1 = k18\_valued\_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X0 k5\_numbers)\wedge(((\neg v2\_struct\_0 X1)\wedge(l3\_algstr\_0 X1))\wedge((m1\_subset\_1 X2 (k4\_finseq\_2 X0 (u1\_struct\_0 X1))\wedge(m1\_subset\_1 X3 (k4\_finseq\_2 X0 (u1\_struct\_0 X1))))\Rightarrow(k12\_fvsum\_1 X0 X1 X2 X3 = k11\_fvsum\_1 X1 X2 X3) \quad (9)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (10)$$

Assume the following.

$$(\neg v2\_struct\_0 k2\_vectsp\_1)\wedge(v36\_algstr\_0 k2\_vectsp\_1) \quad (11)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0)\Rightarrow(\forall X2.(m2\_finseq\_2 X2 X0 X1)\Rightarrow(m2\_finseq\_1 X2 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (14)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l5\_algstr\_0 X0)\Rightarrow((l4\_algstr\_0 X0)\wedge(l4\_struct\_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0)\Rightarrow((l3\_struct\_0 X0)\wedge(l3\_algstr\_0 X0)) \quad (17)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (18)$$

Assume the following.

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

Assume the following.

$$(v36\_algstr\_0 k2\_vectsp\_1)\wedge(l6\_algstr\_0 k2\_vectsp\_1) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge((m1\_subset\_1 X1 (k4\_finseq\_2 X0 k1\_numbers))\wedge(m1\_subset\_1 X2 (k4\_finseq\_2 X0 k1\_numbers))))\Rightarrow(m2\_finseq\_2 (k15\_rvsum\_1 X0 X1 X2) k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X0 k5\_numbers)\wedge(((\neg v2\_struct\_0 X1)\wedge(l3\_algstr\_0 X1))\wedge((m1\_subset\_1 X2 (k4\_finseq\_2 X0 (u1\_struct\_0 X1)))\wedge(m1\_subset\_1 X3 (k4\_finseq\_2 X0 (u1\_struct\_0 X1))))))\Rightarrow(m2\_finseq\_2 (k12\_fvsum\_1 X0 X1 X2 X3) (u1\_struct\_0 X1) (k4\_finseq\_2 X0 (u1\_struct\_0 X1))) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 \\ & (u1\_struct\_0 X0)) \Rightarrow (k13\_fvsum\_1 X0 X1 X2 = k4\_rlvect\_1 X0 (k11\_fvsum\_1 \\ & X0 X1 X2)))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ & X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ & X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k22\_rvsum\_1 X0 X1 = \\ & k18\_rvsum\_1 (k14\_rvsum\_1 X0 X1))) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7\_ordinal1 X0) \wedge ((m1\_subset\_1 \\ & X1 (k4\_finseq\_2 X0 k1\_numbers)) \wedge (m1\_subset\_1 X2 (k4\_finseq\_2 \\ & X0 k1\_numbers)))) \Rightarrow (k15\_rvsum\_1 X0 X1 X2 = k15\_rvsum\_1 X0 X2 X1) \end{aligned} \quad (25)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (26)$$

Assume the following.

$$\forall X0. \forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow (v5\_relat\_1 X1 X0) \quad (27)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v5\_relat\_1 X0 k1\_numbers)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \quad (28)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (\forall X2. \\ & (m2\_finseq\_2 X2 k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (\forall X3. \\ & (m2\_finseq\_2 X3 (u1\_struct\_0 k2\_vectsp\_1) (k4\_finseq\_2 X0 (u1\_struct\_0 \\ & k2\_vectsp\_1)))) \Rightarrow (\forall X4.(m2\_finseq\_2 X4 (u1\_struct\_0 k2\_vectsp\_1) \\ & (k4\_finseq\_2 X0 (u1\_struct\_0 k2\_vectsp\_1)))) \Rightarrow (((X1 = X3) \wedge (X2 = \\ & X4)) \Rightarrow (k22\_rvsum\_1 X1 X2 = k13\_fvsum\_1 k2\_vectsp\_1 X3 X4)))))) \end{aligned}$$