

# t7\_pnproc\_1 (TMW- PmkQYikeK7E31yGA6itTjJ6GtFQspFqL)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k15\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k14\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r2\_wellord2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (v7\_ordinal1 X1) \Rightarrow ((r1\_tarski X0 (k2\_finseq\_1 X1)) \Rightarrow (v2\_funct\_1 (k14\_finseq\_1 X0))) \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (k1\_card\_1 X0 = k1\_card\_1 (k9\_xtuple\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r2\_wellord2 X0 X1) \Leftrightarrow (k1\_card\_1 X0 = k1\_card\_1 X1) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_finseq\_1 X0))) \Rightarrow (k10\_xtuple\_0 (k14\_finseq\_1 (k9\_xtuple\_0 X0)) = k9\_xtuple\_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k10\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k3\_relat\_1 X0 X1) = k9\_xtuple\_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Leftrightarrow(m1\_finseq\_1\ X1\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_finset\_1\ X0)\Rightarrow(k5\_card\_1\ X0 = k1\_card\_1\ X0) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(k3\_finseq\_1\ X0 = k1\_card\_1\ X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v2\_finseq\_1\ X0)))\Rightarrow((v1\_relat\_1\ (k15\_finseq\_1\ X0))\wedge((v1\_funct\_1\ (k15\_finseq\_1\ X0))\wedge(v1\_finseq\_1\ (k15\_finseq\_1\ X0)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)) \quad (11)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v2\_finseq\_1\ X0)))\Rightarrow((v1\_relat\_1\ (k15\_finseq\_1\ X0))\wedge(v1\_funct\_1\ (k15\_finseq\_1\ X0))) \quad (12)$$

Assume the following.

$$\forall X0.m2\_finseq\_1\ (k14\_finseq\_1\ X0)\ k5\_numbers \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(r2\_wellord2\ X0\ X1)\Leftrightarrow(\exists X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\wedge((v2\_funct\_1\ X2)\wedge((k9\_xtuple\_0\ X2 = X0)\wedge(k10\_xtuple\_0\ X2 = X1)))) \quad (14)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v2\_finseq\_1\ X0)))\Rightarrow(k15\_finseq\_1\ X0 = k3\_relat\_1\ (k14\_finseq\_1\ (k9\_xtuple\_0\ X0)\ X0)) \quad (15)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v2\_finseq\_1\ X0)\Leftrightarrow(\exists X1.(v7\_ordinal1\ X1)\wedge(r1\_tarski\ (k9\_xtuple\_0\ X0)\ (k2\_finseq\_1\ X1)))) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_finseq\_1 X0))) \Rightarrow \\ & ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v2\_finseq\_1 \\ & \quad X0)))) \end{aligned} \tag{17}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_finseq\_1 X0))) \Rightarrow \\ & (k5\_card\_1 X0 = k3\_finseq\_1 (k15\_finseq\_1 X0)) \end{aligned}$$