

# t22\_seqm\_3 (TMPnNbnfpjmGFpjRn- WMJQ6nzuLnSQ1sP51a)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_valued\_0 : \iota \Rightarrow o$  be given. Let  $m2\_valued\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_valued\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 k5\_numbers X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers X0)))))) \Rightarrow (\forall X2. (m2\_valued\_0 X2 X0 X1) \Leftrightarrow (m1\_valued\_0 \\ & X2 X1)) \end{aligned} \tag{1}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (( \\ & v2\_valued\_0 X0) \wedge (v5\_valued\_0 X0)))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ & X1) \wedge ((v2\_valued\_0 X1) \wedge (v5\_valued\_0 X1)))))) \Rightarrow ((v1\_relat\_1 (k3\_relat\_1 \\ & X0 X1)) \wedge (v5\_valued\_0 (k3\_relat\_1 X0 X1))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (v6\_membered X1) \Rightarrow (v4\_valued\_0 (k2\_zfmisc\_1 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \tag{5}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \quad (6)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (7)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1 \\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers))))\Rightarrow(\forall X1.((v1\_relat\_1 \\ X1)\wedge((v4\_relat\_1\ X1\ k5\_numbers)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1 \\ X1\ k5\_numbers))))\Rightarrow((m1\_valued\_0\ X1\ X0)\Leftrightarrow(\exists X2.((v1\_funct\_1 \\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ k5\_numbers)\wedge((v5\_valued\_0\ X2)\wedge \\ (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k5\_numbers))))))\wedge \\ (X1 = k3\_relat\_1\ X2\ X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v4\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0)) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v2\_valued\_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v2\_membered\ X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(m1\_subset\_1 \\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v1\_funct\_2\ X2\ X0\ X1)\Rightarrow( \\ v1\_partfun1\ X2\ X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_relat\_1\ X1)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v2\_valued\_0 X2)) \quad (17)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v2\_valued\_0 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v2\_valued\_0 X1)) \quad (18)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))\Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))\Rightarrow \\ & (((v5\_valued\_0 X0)\wedge(m2\_valued\_0 X1 k1\_numbers X0))\Rightarrow(v5\_valued\_0 \\ & X1)) \end{aligned}$$