

t10\_waybel27 (TMTb-  
JpueB53MkX1R97pnMQvSAiKoBdRSPsG)

October 27, 2020

Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_lattice3 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v11\_quantal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (((v11\_quantal1 X0) \wedge ((r1\_tarski \\ & (k10\_xtuple\_0 X1) (k10\_xtuple\_0 X0)) \wedge (r1\_tarski (k10\_xtuple\_0 \\ & X1) (k9\_xtuple\_0 X0)))) \Rightarrow (k3\_relat\_1 X1 X0 = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((k9\_xtuple\_0 (k3\_relat\_1 X1 \\ & X0) = k9\_xtuple\_0 X1) \Rightarrow (r1\_tarski (k10\_xtuple\_0 X1) (k9\_xtuple\_0 \\ & X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1\_funct\_1 X4)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1))))\wedge((v1\_funct\_1 X5)\wedge(m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X2 X3))))))\Rightarrow(k1\_partfun1 X0 X1 X2 X3 X4 X5 = k3\_relat\_1 X4 X5) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k2\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 \\ & X0))\wedge(((\neg v2\_struct\_0 X1)\wedge(l1\_orders\_2 X1))\wedge((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))))\Rightarrow \\ & ((v1\_orders\_2 (k1\_yellow\_2 X0 X1 X2))\wedge((v4\_yellow\_0 (k1\_yellow\_2 \\ & X0 X1 X2) X1)\wedge(m1\_yellow\_0 (k1\_yellow\_2 X0 X1 X2) X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v11\_quantal1 X0)\Leftrightarrow(k3\_relat\_1 X0 X0 = X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1. \\ & ((\neg v2\_struct\_0 X1)\wedge(l1\_orders\_2 X1))\Rightarrow(\forall X2.((v1\_funct\_1 \\ & X2)\wedge((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))))\Rightarrow \\ & (k1\_yellow\_2 X0 X1 X2 = k5\_yellow\_0 X1 (k2\_relset\_1 (u1\_struct\_0 \\ & X1) X2)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))\Rightarrow(\forall X2.((v1\_orders\_2 X2)\wedge((v4\_yellow\_0 \\ & X2 X0)\wedge(m1\_yellow\_0 X2 X0)))\Rightarrow((X2 = k5\_yellow\_0 X0 X1)\Leftrightarrow(u1\_struct\_0 \\ & X2 = X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v2\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (14)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\ & (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.((v3\_orders\_2 X1) \wedge ((v4\_orders\_2 \\ & X1) \wedge ((v5\_orders\_2 X1) \wedge ((v1\_lattice3 X1) \wedge ((v2\_lattice3 X1) \wedge \\ & ((v3\_lattice3 X1) \wedge (l1\_orders\_2 X1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X1) (u1\_struct\_0 X1)) \wedge ((v11\_quantal1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) \\ & (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 (u1\_struct\_0 X0) (u1\_struct\_0 (k1\_yellow\_2 X1 X1 X2))) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 (k1\_yellow\_2 \\ & X1 X1 X2)))))) \Rightarrow (k1\_partfun1 (u1\_struct\_0 X0) (u1\_struct\_0 (k1\_yellow\_2 \\ & X1 X1 X2)) (u1\_struct\_0 X1) (u1\_struct\_0 X1) X3 X2 = X3))) \end{aligned}$$