

# t9\_yellow17 (TM- RFDTwKTB1dqLnP6rvzsRXLxRcV7fJMni5)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $v1\_waybel18 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v2\_pralg\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_pralg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_pralg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_card\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge ( \\ & (v4\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge (v2\_pralg\_1 \\ & X1)))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow (k1\_funct\_1 (k12\_pralg\_1 \\ & X0 X1) X2 = u1\_struct\_0 (k10\_pralg\_1 X0 X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k1\_funct\_1 X0 X1))) \Rightarrow \\ & ((\neg r1\_xboole\_0 (k8\_relat\_1 (k12\_card\_3 X0 X1) (k1\_tarski X2)) \\ & (k8\_relat\_1 (k12\_card\_3 X0 X1) X3)) \Rightarrow (X2 \in X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (k8\_relset\_1 X0 X1 X2 X3 = k8\_relat\_1 \\ & X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_relat\_1 \\ & X1)\wedge((v4\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge \\ & ((v4\_waybel\_3 X1)\wedge(v1\_waybel18 X1))))))\wedge(m1\_subset\_1 X2 X0)))\Rightarrow \\ & (k4\_waybel18 X0 X1 X2 = k1\_funct\_1 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_relat\_1 \\ & X1)\wedge((v4\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge \\ & (v2\_pralg\_1 X1))))))\wedge(m1\_subset\_1 X2 X0)))\Rightarrow(k10\_pralg\_1 X0 X1 \\ & X2 = k1\_funct\_1 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_relat\_1 \\ & X1)\wedge((v4\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge \\ & ((v4\_waybel\_3 X1)\wedge(v1\_waybel18 X1))))))\wedge(m1\_subset\_1 X2 X0)))\Rightarrow \\ & ((v1\_funct\_1 (k6\_waybel18 X0 X1 X2))\wedge((v1\_funct\_2 (k6\_waybel18 \\ & X0 X1 X2) (u1\_struct\_0 (k3\_waybel18 X0 X1)) (u1\_struct\_0 (k4\_waybel18 \\ & X0 X1 X2)))\wedge(m1\_subset\_1 (k6\_waybel18 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 (k3\_waybel18 X0 X1)) (u1\_struct\_0 (k4\_waybel18 X0 \\ & X1 X2))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge( \\ & (v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge(v2\_pralg\_1 X1))))\Rightarrow(( \\ & v1\_relat\_1 (k12\_pralg\_1 X0 X1))\wedge((v4\_relat\_1 (k12\_pralg\_1 X0 \\ & X1) X0)\wedge((v1\_funct\_1 (k12\_pralg\_1 X0 X1))\wedge(v1\_partfun1 (k12\_pralg\_1 \\ & X0 X1) X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge( \\ & (v4\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge((v4\_waybel\_3 \\ & X1)\wedge(v1\_waybel18 X1))))))\Rightarrow(\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow( \\ & k6\_waybel18 X0 X1 X2 = k12\_card\_3 (k12\_pralg\_1 X0 X1) X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_waybel18 X0)))\Rightarrow \\ & ((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_pralg\_1 X0))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge \\ & (v4\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge ((v4\_waybel\_3 \\ & X1) \wedge (v1\_waybel18 X1)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow ( \\ & \forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k4\_waybel18 X0 X1 X2))) \Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 (k4\_waybel18 \\ & X0 X1 X2)))) \Rightarrow ((\neg r1\_xboole\_0 (k8\_reset\_1 (u1\_struct\_0 (k3\_waybel18 \\ & X0 X1)) (u1\_struct\_0 (k4\_waybel18 X0 X1 X2)) (k6\_waybel18 X0 X1 X2) \\ & (k1\_tarski X3)) (k8\_reset\_1 (u1\_struct\_0 (k3\_waybel18 X0 X1)) \\ & (u1\_struct\_0 (k4\_waybel18 X0 X1 X2)) (k6\_waybel18 X0 X1 X2) X4) \Rightarrow \\ & (X3 \in X4)))))) \end{aligned}$$