

# l19\_yellow\_1

(TMYoyHtCM2n6UPhNi6hXXxi8qVnYJr62kYn)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_lattices : \iota \Rightarrow o$  be given. Let  $k1\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k3\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_lattices : \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_lattices : \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X2 X1)) \Rightarrow (r1\_tarski (k2\_xboole\_0 X0 X2) X1) \quad (1)$$

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.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1\_tarski X0 X1) \Rightarrow (r1\_tarski (k3\_xboole\_0 X0 X2) X1) \quad (4)$$

Assume the following.

$$\forall X0. k9\_setfam\_1 X0 = k1\_zfmisc\_1 X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\Rightarrow(\forall X2.\forall X3.(g1\_orders\_2 X0 X1 = g1\_orders\_2 X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \quad (6)$$

Assume the following.

$$\forall X0.(v3\_lattices (k1\_lattice3 X0))\wedge(v10\_lattices (k1\_lattice3 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v2\_struct\_0 (k1\_lattice3 X0))\wedge(v3\_lattices (k1\_lattice3 X0)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge(l3\_lattices X0)))\Rightarrow((v1\_partfun1 (k2\_lattice3 X0) (u1\_struct\_0 X0))\wedge((v1\_relat\_2 (k2\_lattice3 X0))\wedge((v4\_relat\_2 (k2\_lattice3 X0))\wedge((v8\_relat\_2 (k2\_lattice3 X0))\wedge(m1\_subset\_1 (k2\_lattice3 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))))))) \quad (10)$$

Assume the following.

$$\forall X0.(v3\_lattices (k1\_lattice3 X0))\wedge(l3\_lattices (k1\_lattice3 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\Rightarrow((v1\_orders\_2 (g1\_orders\_2 X0 X1))\wedge(l1\_orders\_2 (g1\_orders\_2 X0 X1))) \quad (12)$$

Assume the following.

$$\forall X0.k3\_yellow\_1 X0 = k3\_lattice3 (k1\_lattice3 X0) \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge(l3\_lattices X0)))\Rightarrow(k3\_lattice3 X0 = g1\_orders\_2 (u1\_struct\_0 X0) (k2\_lattice3 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v3\_lattices\ X1) \wedge (l3\_lattices\ X1)) \Rightarrow ( \\ & (X1 = k1\_lattice3\ X0) \Leftrightarrow ((u1\_struct\_0\ X1 = k9\_setfam\_1\ X0) \wedge (\forall X2. \\ & (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X3. (m1\_subset\_1\ X3 \\ & (k1\_zfmisc\_1\ X0)) \Rightarrow ((k1\_binop\_1\ (u2\_lattices\ X1)\ X2\ X3 = k4\_subset\_1 \\ & X0\ X2\ X3) \wedge (k1\_binop\_1\ (u1\_lattices\ X1)\ X2\ X3 = k9\_subset\_1\ X0\ X2\ X3)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_orders\_2\ X0) \Rightarrow ((v1\_orders\_2\ X0) \Rightarrow (X0 = g1\_orders\_2 \\ & (u1\_struct\_0\ X0)\ (u1\_orders\_2\ X0))) \end{aligned} \quad (16)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1\ X1\ (u1\_struct\_0\ (k3\_yellow\_1 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1\ X2\ (u1\_struct\_0\ (k3\_yellow\_1 \\ & X0))) \Rightarrow ((k3\_xboole\_0\ X1\ X2 \in k9\_setfam\_1\ X0) \wedge (k2\_xboole\_0\ X1\ X2 \in \\ & k9\_setfam\_1\ X0))) \end{aligned}$$