

t5\_coh\_sp  
(TMY2ps85c5sGnjJy1hBAHq2TBnvcgjF9aXy)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_classes1 : \iota \Rightarrow o$  be given. Let  $v1\_coh\_sp : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v3\_relat\_2 : \iota \Rightarrow o$  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  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_coh\_sp : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1\_tarski (k2\_tarski X0 X1) X2) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (r2\_relset\_1 X0 X1 X2 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_classes1 X0) \wedge (v1\_coh\_sp X0))) \Rightarrow ((v1\_partfun1 (k1\_coh\_sp X0) (k3\_tarski X0)) \wedge ((v1\_relat\_2 (k1\_coh\_sp X0)) \wedge ((v3\_relat\_2 (k1\_coh\_sp X0)) \wedge (m1\_subset\_1 (k1\_coh\_sp X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_tarski X0) (k3\_tarski X0))))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_tarSKI X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_classes1 X0) \wedge (v1\_coh\_sp \\ X0))) \Rightarrow (\forall X1.((v1\_partfun1 X1 (k3\_tarSKI X0)) \wedge ((v1\_relat\_2 \\ X1) \wedge ((v3\_relat\_2 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ (k3\_tarSKI X0) (k3\_tarSKI X0)))))) \Rightarrow ((X1 = k1\_coh\_sp X0) \Leftrightarrow (\forall X2. \\ \forall X3.(k4\_tarSKI X2 X3 \in X1) \Leftrightarrow (\exists X4.(X4 \in X0) \wedge ((X2 \in X4) \wedge \\ (X3 \in X4))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1\_classes1 X0) \Leftrightarrow (\forall X1.\forall X2.((X1 \in X0) \wedge (r1\_tarSKI X2 X1)) \Rightarrow (X2 \in X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarSKI X0 X1 = k2\_tarSKI X1 X0 \quad (9)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_classes1 X0) \wedge (v1\_coh\_sp \\ X0))) \Rightarrow (\forall X1.((v1\_partfun1 X1 (k3\_tarSKI X0)) \wedge ((v1\_relat\_2 \\ X1) \wedge ((v3\_relat\_2 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ (k3\_tarSKI X0) (k3\_tarSKI X0)))))) \Rightarrow ((r2\_relset\_1 (k3\_tarSKI \\ X0) (k3\_tarSKI X0) X1 (k1\_coh\_sp X0)) \Leftrightarrow (\forall X2.\forall X3.( \\ k4\_tarSKI X2 X3 \in X1) \Leftrightarrow (k2\_tarSKI X2 X3 \in X0)))) \end{aligned}$$