

t17\_compl\_sp  
(TMUYUZ2UK8Ki8jFMV4DWDWPKn56AdYV8CnB)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v7\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v8\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v9\_metric\_1 : \iota \Rightarrow o$  be given. Let  $l1\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $k1\_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_metric\_1 : \iota \Rightarrow o$  be given. Let  $m1\_topmetr : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\ & ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \Rightarrow (r1\_tarski X1 X2) \Rightarrow (((X1 = k1\_xboole\_0) \wedge (X0 \neq k1\_xboole\_0)) \vee \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge \\ & ((v7\_metric\_1 X0) \wedge (v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 \\ & X0)))))) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))) \Rightarrow ((v1\_metric\_1 (k1\_topmetr X0 X1)) \wedge (m1\_topmetr (k1\_topmetr \\ & X0 X1) X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 \\
& X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 X0)))))) \Rightarrow \\
& (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0)))) \Rightarrow (\forall X2.((v1\_metric\_1 X2) \wedge (m1\_topmetr \\
& X2 X0)) \Rightarrow ((X2 = k1\_topmetr X0 X1) \Leftrightarrow (u1\_struct\_0 X2 = X1)))) \tag{5}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 \\
& X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 X0)))))) \Rightarrow \\
& (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 k5\_numbers (u1\_struct\_0 (k1\_topmetr X0 X1))) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 (k1\_topmetr \\
& X0 X1)))))) \Rightarrow ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0))))))))))
\end{aligned}$$