

t4\_waybel19  
(TMVHsa6BxG3Q8gkHeBS24FkEHgLtiL5ATp9)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_waybel19 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_cantor\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v1\_tops\_2 X1 X0) \Leftrightarrow (r1\_tarski X1 (u1\_pre\_topc X0)))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k7\_subset\_1 X0 X1 X2 = k4\_xboole\_0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (m1\_subset\_1\ (u1\_pre\_topc\ X0)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9\ X0) \Rightarrow ((l1\_pre\_topc\ X0) \wedge (l1\_orders\_2\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (l1\_struct\_0\ X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l1\_orders\_2\ X0)) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))) \Rightarrow (m1\_subset\_1\ (k6\_waybel\_0\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \quad (10)$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0) \Rightarrow (m1\_subset\_1\ (k2\_struct\_0\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (k3\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0) \Rightarrow (k2\_struct\_0\ X0 = u1\_struct\_0\ X0) \quad (13)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v4\_pre\_topc\ X1\ X0) \Leftrightarrow (v3\_pre\_topc\ (k7\_subset\_1\ (u1\_struct\_0\ X0)\ (k2\_struct\_0\ X0)\ X1)\ X0))) \quad (14)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v3\_pre\_topc\ X1\ X0) \Leftrightarrow (X1 \in u1\_pre\_topc\ X0))) \quad (15)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_waybel\_9 X0)) \Rightarrow ((v1\_waybel19 \\
& X0) \Leftrightarrow ((v1\_tops\_2 (ReplSep (toset (\lambda X1 : \iota.m1\_subset\_1 X1 ( \\
& u1\_struct\_0 X0))) (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k6\_waybel\_0 X0 X1))) X0) \wedge ((v2\_cantor\_1 (ReplSep \\
& (toset (\lambda X1 : \iota.m1\_subset\_1 X1 (u1\_struct\_0 X0))) (\lambda X1 : \\
& \iota.True) (\lambda X1 : \iota.k3\_subset\_1 (u1\_struct\_0 X0) (k6\_waybel\_0 \\
& X0 X1))) X0) \wedge (m1\_subset\_1 (ReplSep (toset (\lambda X1 : \iota.m1\_subset\_1 \\
& X1 (u1\_struct\_0 X0))) (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k6\_waybel\_0 X0 X1))) (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0)))))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \tag{17}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_waybel19 X0) \wedge (l1\_waybel\_9 \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v3\_pre\_topc \\
& (k3\_subset\_1 (u1\_struct\_0 X0) (k6\_waybel\_0 X0 X1)) X0) \wedge (v4\_pre\_topc \\
& (k6\_waybel\_0 X0 X1) X0)))
\end{aligned}$$