

t23\_waybel10  
(TMQX7gzC9efFFjbtDzDJCXbN3qdQhxGjWCJ)

October 27, 2020

Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (l1\_orders\_2 X0) \Rightarrow (\forall X1. ((v4\_yellow\_0 X1 X0) \wedge \\ (m1\_yellow\_0 X1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\ (m1\_subset\_1 X4 (u1\_struct\_0 X1)) \Rightarrow (\forall X5. (m1\_subset\_1 X5 \\ (u1\_struct\_0 X1)) \Rightarrow (((X4 = X2) \wedge ((X5 = X3) \wedge ((r1\_orders\_2 X0 X2 X3) \wedge \\ (X4 \in u1\_struct\_0 X1)))) \Rightarrow (r1\_orders\_2 X1 X4 X5))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (4)$$

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.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_yellow\_0 X1 X0) \Rightarrow (l1\_orders\_2 X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v2\_waybel\_0 X1 X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ X0)) \Rightarrow (\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\ X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((r1\_orders\_2 X0 X4 X2) \wedge (r1\_orders\_2 X0 X4 X3))))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v1\_waybel\_0 X1 X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ X0)) \Rightarrow (\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\ X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((r1\_orders\_2 X0 X2 X4) \wedge (r1\_orders\_2 X0 X3 X4))))))))))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.((v4\_yellow\_0 X1 X0) \wedge \\ (m1\_yellow\_0 X1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X1))) \Rightarrow (((v1\_waybel\_0 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))) \Rightarrow (v1\_waybel\_0 X2 X1)) \wedge (((v2\_waybel\_0 X2 X0) \wedge \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (v2\_waybel\_0 \\ X2 X1)))))) \end{aligned}$$