

t1\_waybel17

(TMV3QCeSVT9vWdaFDt6KiFhThRww7WfW5r6)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  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  $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_orders\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\ & ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \Rightarrow ((X1 \neq k1\_xboole\_0) \Rightarrow (\forall X4. (X4 \in k8\_relset\_1 X0 \\ & X1 X3 X2) \Leftrightarrow ((X4 \in X0) \wedge (k1\_funct\_1 X3 X4 \in X2)))) \end{aligned} \quad (4)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(v1\_xboole\_0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1\_orders\_2 X0)\wedge((\neg v2\_struct\_0 X1)\wedge \\ & ((v3\_orders\_2 X1)\wedge(l1\_orders\_2 X1))))\Rightarrow(\exists X2.(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))\wedge \\ & ((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 (u1\_struct\_0 X0))\wedge((v5\_relat\_1 \\ & X2 (u1\_struct\_0 X1))\wedge((v1\_funct\_1 X2)\wedge((v1\_partfun1 X2 (u1\_struct\_0 \\ & X0))\wedge((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge(v5\_orders\_3 \\ & X2 X0 X1)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(\neg v1\_xboole\_0 X1)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\wedge((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 X0)\wedge( \\ & (v5\_relat\_1 X2 X1)\wedge((v1\_funct\_1 X2)\wedge(v1\_funct\_2 X2 X0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(m1\_subset\_1 (k8\_relset\_1 \\ & X0 X1 X2 X3) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(m1\_subset\_1 ( \\ & k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge (l1\_orders\_2 X1)) \Rightarrow (\forall X2.((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow \\
& ((v5\_orders\_3 X2 X0 X1) \Leftrightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow ((r1\_orders\_2 \\
& X0 X3 X4) \Rightarrow (r1\_orders\_2 X1 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1) X2 X3) (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X4))))))))) \\
& \tag{14}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \Rightarrow ((v12\_waybel\_0 X1 X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (((X2 \in X1) \wedge (r1\_orders\_2 X0 X3 X2)) \Rightarrow (X3 \in X1)))))) \\
& \tag{15}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_xboole\_0 X1)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow \\
& (((v1\_funct\_1 X2) \wedge (v1\_funct\_2 X2 X0 X1)) \Rightarrow ((v1\_funct\_1 X2) \wedge (( \\
& \neg v1\_xboole\_0 X2) \wedge (v1\_funct\_2 X2 X0 X1)))))) \\
& \tag{16}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1\_xboole\_0 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0))) \Rightarrow (v1\_xboole\_0 X2)) \\
& \tag{17}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1\_xboole\_0 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_xboole\_0 X2)) \\
& \tag{18}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& X0)) \Rightarrow (v1\_xboole\_0 X1)) \\
& \tag{19}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v1\_partfun1 X2 X0) \Rightarrow (v1\_funct\_2 X2 X0 X1)) \\
& \tag{20}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_funct\_1 X0) \\
& \tag{21}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v3\_orders\_2 X1) \wedge (l1\_orders\_2 \\ & X1))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3.((v12\_waybel\_0 \\ & X3 X1) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))) \Rightarrow ((v5\_orders\_3 \\ & X2 X0 X1) \Rightarrow (v12\_waybel\_0 (k8\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X1) X2 X3) X0)))))) \end{aligned}$$