

t6\_yellow16 (TMN-  
mqE5dvaWAZ7cu3XAMkWBhiA8XnXj9PTR)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v24\_waybel\_0 : \iota \Rightarrow o$  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  $v11\_quantal1 : \iota \Rightarrow o$  be given. Let  $v22\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_waybel\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v18\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v8\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_orders\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\
& X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1. ((v1\_funct\_1 \\
& X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow \\
& ((v6\_waybel\_1 X1 X0) \Rightarrow (\forall X2. ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((X2 = ReplSep (toset (\lambda X3 : \\
& \iota. m1\_subset\_1 X3 (u1\_struct\_0 X0))) (\lambda X3 : \iota. r3\_orders\_2 \\
& X0 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X3) X3) (\lambda X3 : \\
& \iota. X3)) \Rightarrow (((v18\_waybel\_0 X1 X0 X0) \Rightarrow ((v8\_yellow\_0 (k5\_yellow\_0 \\
& X0 X2) X0) \wedge (v8\_yellow\_0 (k1\_yellow\_2 X0 X0 X1) X0))) \wedge ((v22\_waybel\_0 \\
& X1 X0 X0) \Rightarrow ((v4\_waybel\_0 (k5\_yellow\_0 X0 X2) X0) \wedge (v4\_waybel\_0 ( \\
& k1\_yellow\_2 X0 X0 X1) X0)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\
& X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.((v1\_funct\_1 \\
& X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow \\
& ((v6\_waybel\_1 X1 X0) \Rightarrow (((\neg v1\_xboole\_0 (ReplSep (toset (\lambda X2 : \\
& \iota.m1\_subset\_1 X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.r3\_orders\_2 \\
& X0 X2 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X2)) (\lambda X2 : \\
& \iota.X2))) \wedge (m1\_subset\_1 (ReplSep (toset (\lambda X2 : \iota.m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.r3\_orders\_2 X0 X2 (k3\_funct\_2 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X2)) (\lambda X2 : \iota.X2)) (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0)))))) \wedge ((\neg v1\_xboole\_0 (ReplSep (toset (\lambda X2 : \\
& \iota.m1\_subset\_1 X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.r3\_orders\_2 \\
& X0 (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X2) X2)) (\lambda X2 : \\
& \iota.X2))) \wedge (m1\_subset\_1 (ReplSep (toset (\lambda X2 : \iota.m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.r3\_orders\_2 X0 (k3\_funct\_2 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0) X1 X2) X2)) (\lambda X2 : \iota.X2)) ( \\
& k1\_zfmisc\_1 (u1\_struct\_0 X0)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0 : \iota \Rightarrow o. \forall X1.m1\_subset\_1 (ReplSep (toset ( \\
& \lambda X2 : \iota.m1\_subset\_1 X2 X1)) (\lambda X2 : \iota.X0 X2) (\lambda X2 : \iota. \\
& X2)) (k1\_zfmisc\_1 X1)
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0)))))) \Rightarrow ((v6\_waybel\_1 X1 X0) \Leftrightarrow ((v11\_quantal1 \\
& X1) \wedge (v5\_orders\_3 X1 X0 X0))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge \\
& ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))) \wedge ((\neg v2\_struct\_0 X1) \wedge ( \\
& (v3\_orders\_2 X1) \wedge ((v5\_orders\_2 X1) \wedge (l1\_orders\_2 X1)))))) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1)))) \Rightarrow (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1)) \wedge (v22\_waybel\_0 X2 X0 X1))) \Rightarrow ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge (v5\_orders\_3 X2 X0 X1))))))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) \\ & (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow (((v11\_quantal1 X1) \wedge \\ & (v22\_waybel\_0 X1 X0 X0)) \Rightarrow (v4\_waybel\_0 (k1\_yellow\_2 X0 X0 X1) X0))) \end{aligned}$$