

t9\_yellow\_2  
(TMGBg4YKgrzZRsnHtyUx76uiRnKYFWTyihJ)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  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  $r1\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_orders\_2 X0) \Rightarrow (l1\_struct\_0 X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (l1\_orders\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 X0 (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 \\
& X3) \wedge ((v1\_funct\_2 X3 X0 (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow ((r1\_yellow\_2 X0 X1 X2 X3) \Leftrightarrow \\
& (\forall X4. \neg(X4 \in X0) \wedge (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 \\
& X1)) \Rightarrow (\forall X6. (m1\_subset\_1 X6 (u1\_struct\_0 X1)) \Rightarrow (\neg(X5 = k1\_funct\_1 \\
& X2 X4) \wedge ((X6 = k1\_funct\_1 X3 X4) \wedge (r1\_orders\_2 X1 X5 X6)))))))))) \\
& \tag{7}
\end{aligned}$$

**Theorem 1**

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