

## t2\_yellow\_9

(TMa751gRiLAJMnASsjnU1NXx8nru4ck3ziV)

October 27, 2020

Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  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  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (k8\_relat\_1 X2 (k6\_subset\_1 X0 X1) = k6\_subset\_1 (k8\_relat\_1 X2 X0) (k8\_relat\_1 X2 X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (((X1 = k1\_xboole\_0) \Rightarrow (X0 = k1\_xboole\_0)) \Rightarrow (k8\_relset\_1 X0 X1 X2 X1 = X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (k8\_relset\_1 X0 X1 X2 X3 = k8\_relat\_1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1))) \Rightarrow (m1\_subset\_1 \ (k8\_relset\_1 \ X0 \ X1 \ X2 \ X3) \ (k1\_zfmisc\_1 \ X0)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)) \Rightarrow (k3\_subset\_1 \ X0 \ X1 = k4\_xboole\_0 \ X0 \ X1) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1))) \Rightarrow (v1\_relat\_1 \ X2) \tag{9}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(l1\_struct\_0 \ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \ X1) \wedge \\ & (l1\_struct\_0 \ X1)) \Rightarrow (\forall X2.((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \\ & X2 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X1)) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X1)))))) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ (u1\_struct\_0 \ X1))) \Rightarrow (k3\_subset\_1 \\ & (u1\_struct\_0 \ X0) \ (k8\_relset\_1 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X1) \\ & X2 \ X3) = k8\_relset\_1 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X1) \ X2 \ (k3\_subset\_1 \\ & (u1\_struct\_0 \ X1) \ X3)))))) \end{aligned}$$