

# t18\_group\_9

## (TMFLt8szRe4G9e4upHNuk2S6ch5K9na9Xx9)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k17\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\ & X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge ( \\ & l1\_group\_9 X1 X0)))))) \wedge ((m1\_group\_9 X2 X0 X1) \wedge (m1\_group\_9 X3 X0 \\ & X1))) \Rightarrow ((v2\_group\_9 (k17\_group\_9 X0 X1 X2 X3) X0) \wedge (m1\_group\_9 ( \\ & k17\_group\_9 X0 X1 X2 X3) X0 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\ & X1) \wedge ((v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))))) \wedge \\ & (m1\_group\_9 X2 X0 X1)) \Rightarrow (m1\_subset\_1 (k15\_group\_9 X0 X1 X2) (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ( \\ & v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))))) \Rightarrow ( \\ & \forall X2. (m1\_group\_9 X2 X0 X1) \Rightarrow (\forall X3. (m1\_group\_9 X3 X0 \\ & X1) \Rightarrow (\forall X4. ((v2\_group\_9 X4 X0) \wedge (m1\_group\_9 X4 X0 X1)) \Rightarrow (( \\ & X4 = k17\_group\_9 X0 X1 X2 X3) \Leftrightarrow (u1\_struct\_0 X4 = k9\_subset\_1 (u1\_struct\_0 \\ & X1) (k15\_group\_9 X0 X1 X2) (k15\_group\_9 X0 X1 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. (m1\_group\_9 X2 X0 X1) \Rightarrow (k15\_group\_9 X0 X1 X2 = u1\_struct\_0 \\ & X2)) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\ & X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge \\ & l1\_group\_9 X1 X0)))) \wedge ((m1\_group\_9 X2 X0 X1) \wedge (m1\_group\_9 X3 X0 \\ & X1))) \Rightarrow (k17\_group\_9 X0 X1 X2 X3 = k17\_group\_9 X0 X1 X3 X2) \end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. (m1\_group\_9 X2 X0 X1) \Rightarrow (\forall X3. (m1\_group\_9 X3 X0 \\ & X1) \Rightarrow ((\forall X4. (m1\_group\_9 X4 X0 X1) \Rightarrow ((X4 = k17\_group\_9 X0 X1 \\ & X2 X3) \Rightarrow (u1\_struct\_0 X4 = k3\_xboole\_0 (u1\_struct\_0 X2) (u1\_struct\_0 \\ & X3)))) \wedge (\forall X4. ((v2\_group\_9 X4 X0) \wedge (m1\_group\_9 X4 X0 X1)) \Rightarrow \\ & ((u1\_struct\_0 X4 = k3\_xboole\_0 (u1\_struct\_0 X2) (u1\_struct\_0 X3)) \Rightarrow \\ & (X4 = k17\_group\_9 X0 X1 X2 X3)))))) \end{aligned}$$