

# t45\_group\_11 (TMJbyYncjUsbxBomcAZwDw- tEoZD8G6RLMLo)

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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  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_group\_11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1\_group\_2 X2 X0) \Rightarrow ((m1\_group\_2 (k10\_group\_2 X0 X1 X2) X1) \wedge (m1\_group\_2 \\ & (k10\_group\_2 X0 X1 X2) X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (\forall X2.(m1\_group\_2 \\ & X2 X0) \Rightarrow (\forall X3.(m1\_group\_2 X3 X0) \Rightarrow ((m1\_group\_2 X2 X3) \Rightarrow (r1\_tarski \\ & (k1\_group\_11 X0 X1 X3) (k1\_group\_11 X0 X1 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 (k9\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((m1\_subset\_1 X1 ( \\ & k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge (m1\_group\_2 X2 X0))) \Rightarrow (m1\_subset\_1 \\ & (k1\_group\_11 X0 X1 X2) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (\forall X2. (m1\_group\_2 \\ & X2 X0) \Rightarrow (\forall X3. (m1\_group\_2 X3 X0) \Rightarrow (\forall X4. (m1\_group\_2 \\ & X4 X0) \Rightarrow ((X2 = k10\_group\_2 X0 X3 X4) \Rightarrow (r1\_tarski (k9\_subset\_1 (u1\_struct\_0 \\ & X0) (k1\_group\_11 X0 X1 X3) (k1\_group\_11 X0 X1 X4)) (k1\_group\_11 X0 \\ & X1 X2)))))))))) \end{aligned}$$