

## t8\_gr\_cy\_1

(TMdDeer5UDa3zCTHeMa4nafNd3t3KRJhsCz)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v8\_struct\_0 : \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_group\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v8\_struct\_0 X0) \wedge ((v2\_group\_1 \\ &X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ &X1 (u1\_struct\_0 X0)) \Rightarrow (k6\_group\_1 X0 X1 = k7\_group\_1 (k5\_group\_4 \\ &X0 (k6\_domain\_1 (u1\_struct\_0 X0) X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v8\_struct\_0 X0) \wedge ((v2\_group\_1 \\ &X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_group\_2 \\ &X1 X0) \Rightarrow (r1\_nat\_d (k7\_group\_1 X1) (k7\_group\_1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l3\_algstr\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))) \Rightarrow ((v15\_algstr\_0 (k5\_group\_4 X0 X1)) \wedge (m1\_group\_2 \\ & (k5\_group\_4 X0 X1) X0)) \end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v8\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (r1\_nat\_d (k6\_group\_1 X0 X1) (k7\_group\_1 \\ & X0))) \end{aligned}$$