

# l11\_grnilp\_1

(TMKhLNdxvESMV1qsVpKteiaBSwbKxMRYFdm)

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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  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_group\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  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  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (\forall X2. \\ (m1\_group\_2 X2 X0) \Rightarrow ((r1\_tarski (u1\_struct\_0 X1) (u1\_struct\_0 \\ X2)) \Rightarrow (m1\_group\_2 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (m1\_group\_2 X1 X0)) \Rightarrow (\forall X2. \\ (m1\_group\_6 X2 X0 X1) \Leftrightarrow (m1\_group\_2 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (m1\_group\_2 X1 X0)) \Rightarrow (\forall X2. \\ (m1\_group\_6 X2 X0 X1) \Rightarrow (m1\_group\_2 X2 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge (l3\_algstr\_0 \\ X0))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\ X1) \wedge (l3\_algstr\_0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (m1\_group\_2 X1 X0)) \Rightarrow (m1\_subset\_1 \\ & (k8\_group\_2 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))) \Rightarrow ((v15\_algstr\_0 (k5\_group\_4 X0 X1)) \wedge (m1\_group\_2 \\ & (k5\_group\_4 X0 X1) X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow (k8\_group\_2 \\ & X0 X1 = u1\_struct\_0 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow (\forall X2. ((v15\_algstr\_0 X2) \wedge (m1\_group\_2 \\ & X2 X0)) \Rightarrow ((X2 = k5\_group\_4 X0 X1) \Leftrightarrow ((r1\_tarski X1 (u1\_struct\_0 X2)) \wedge \\ & (\forall X3. ((v15\_algstr\_0 X3) \wedge (m1\_group\_2 X3 X0)) \Rightarrow ((r1\_tarski \\ & X1 (u1\_struct\_0 X3)) \Rightarrow (m1\_group\_2 X2 X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow (v3\_group\_1 \\ & X1)) \end{aligned} \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow (m1\_group\_6 \\ & (k5\_group\_4 X0 (k8\_group\_2 X0 X1)) X0 X1)) \end{aligned}$$