

## l3\_groeb\_1

(TMUtoMR33yTLdS45CtvaioG8U8aqTGThigKL)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_algstr\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  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  $k7\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((\neg v1\_xboole\_0 \\ & (k7\_ideal\_1 X0 X1)) \wedge ((v1\_ideal\_1 (k7\_ideal\_1 X0 X1) X0) \wedge ((v2\_ideal\_1 \\ & (k7\_ideal\_1 X0 X1) X0) \wedge ((v3\_ideal\_1 (k7\_ideal\_1 X0 X1) X0) \wedge (m1\_subset\_1 \\ & (k7\_ideal\_1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \tag{2}$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Leftrightarrow (\forall X1. \neg X1 \in X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((\neg v1\_xboole\_0 \\ & X1) \Rightarrow (\forall X2. ((\neg v1\_xboole\_0 X2) \wedge ((v1\_ideal\_1 X2 X0) \wedge ((v2\_ideal\_1 \\ & X2 X0) \wedge ((v3\_ideal\_1 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))))))) \Rightarrow ((X2 = k7\_ideal\_1 X0 X1) \Leftrightarrow ((r1\_tarski X1 X2) \wedge (\forall X3. \\ & ((\neg v1\_xboole\_0 X3) \wedge ((v1\_ideal\_1 X3 X0) \wedge ((v2\_ideal\_1 X3 X0) \wedge \\ & (v3\_ideal\_1 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))))))) \Rightarrow ((r1\_tarski X1 X3) \Rightarrow (r1\_tarski X2 X3)))))) \end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v7\_algstr\_0 X0) \wedge (v13\_algstr\_0 \\ & X0) \wedge (v3\_group\_1 X0) \wedge (v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 X0) \wedge \\ & (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v1\_algstr\_1 X0) \wedge (l6\_algstr\_0 \\ & X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X2 \in X1) \Rightarrow \\ & (X2 \in k7\_ideal\_1 X0 X1)))) \end{aligned}$$