

# t6\_groeb\_2

## (TMdNiwQgDkyzjahKP1NUnrc2fkipMkg3shwg)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_poly : \iota \Rightarrow o$  be given. Let  $r6\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_groeb\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k11\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k15\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k14\_pre\_poly : \iota \Rightarrow \iota$  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  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_funct\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge \\ & (v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge ((v4\_valued\_0 X1) \wedge (v2\_pre\_poly \\ & X1)))))) \Rightarrow (r6\_pboole X0 (k11\_pre\_poly X0 X1 (k16\_pre\_poly X0) \\ & X1) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 \\ & X1 X0) \wedge ((v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0)))) \wedge ((v1\_relat\_1 \\ & X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 X2 X0)))))) \Rightarrow \\ & (r6\_pboole X0 X1 X1) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 \\ & X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge ((v4\_valued\_0 X1) \wedge \\ & (v2\_pre\_poly X1)))))) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge \\ & ((v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X0) \wedge ((v4\_valued\_0 X2) \wedge (v2\_pre\_poly \\ & X2))))))) \Rightarrow (r3\_pre\_poly X0 X1 X1) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. k15\_pre\_poly X0 = k14\_pre\_poly X0 \tag{4}$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k14\_pre\_poly X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \quad (6)$$

Assume the following.

$$\forall X0. m2\_subset\_1 (k16\_pre\_poly X0) (k14\_pre\_poly X0) (k15\_pre\_poly X0) \quad (7)$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k15\_pre\_poly X0) (k1\_zfmisc\_1 (k14\_pre\_poly X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge ((v4\_valued\_0 X1) \wedge (v2\_pre\_poly X1)))))) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge (v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X0) \wedge ((v4\_valued\_0 X2) \wedge (v2\_pre\_poly X2)))))) \Rightarrow ((r3\_pre\_poly X0 X2 X1) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge ((v4\_relat\_1 X3 X0) \wedge (v1\_funct\_1 X3) \wedge ((v1\_partfun1 X3 X0) \wedge ((v4\_valued\_0 X3) \wedge (v2\_pre\_poly X3)))))) \Rightarrow ((X3 = k1\_groeb\_2 X0 X1 X2) \Leftrightarrow (r6\_pboole X0 (k11\_pre\_poly X0 X2 X3) X1)))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k15\_pre\_poly X0))) \Rightarrow (v4\_funct\_1 X1) \quad (10)$$

Assume the following.

$$\forall X0. (v4\_funct\_1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k15\_pre\_poly X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 X1) \Rightarrow ((v1\_partfun1 X2 X0) \wedge ((v4\_valued\_0 X2) \wedge (v2\_pre\_poly X2)))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k15\_pre\_poly X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 X1) \Rightarrow (v4\_relat\_1 X2 X0)) \quad (13)$$

**Theorem 1**

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge ((v4\_valued\_0 X1) \wedge (v2\_pre\_poly X1)))))) \Rightarrow (r6\_pboole X0 (k1\_groeb\_2 X0 X1 X1) (k16\_pre\_poly X0))$$