

t29\_borsuk\_7 (TMGMOQYGeR-  
WER1Ng9LPvvrGSkE8CjpHVNw8)

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Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_borsuk\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k4\_funct\_4 X0 X0 X1 X2 = k16\_funcop\_1 X0 X2 \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((X0 \neq X1) \Rightarrow (k1\_funct\_1 (k4\_funct\_4 X0 X1 X2 X3) X0 = X2)) \wedge (k1\_funct\_1 (k4\_funct\_4 X0 X1 X2 X3) X1 = X3) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. (v1\_xcmplx\_0 X5) \Rightarrow ((r1\_zfmisc\_1 X0 X1 X5) \Rightarrow ((k1\_funct\_1 (k1\_borsuk\_7 X0 X1 X5 X2 X3 X4) X0 = X2) \wedge ((k1\_funct\_1 (k1\_borsuk\_7 X0 X1 X5 X2 X3 X4) X1 = X3) \wedge (k1\_funct\_1 (k1\_borsuk\_7 X0 X1 X5 X2 X3 X4) X5 = X4)))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k1\_borsuk\_7 X0 X1 X1 X2 X3 X4 = k4\_funct\_4 X0 X1 X2 X4 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(X0 \neq X1) \Rightarrow (k1\_borsuk\_7 X0 X1 X0 X2 X3 X4 = k4\_funct\_4 X0 X1 X4 X3) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & k9\_xtuple\_0 (k1\_funct\_4 (k1\_funct\_4 (k16\_funcop\_1 X0 X3) (k16\_funcop\_1 \\ & \quad X1 X4)) (k16\_funcop\_1 X2 X5)) = k1\_enumset1 X0 X1 X2 \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (v1\_relat\_1 (k1\_borsuk\_7 X0 X1 X2 X3 X4 X5)) \wedge (v1\_funct\_1 (k1\_borsuk\_7 \\ & \quad X0 X1 X2 X3 X4 X5)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1\_zfmisc\_1 X0 X1 X2) \Leftrightarrow ((X0 \neq X1) \wedge ((X0 \neq X2) \wedge (X1 \neq X2))) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. k4\_funct\_4 X0 X1 X2 \\ & X3 = k1\_funct\_4 (k16\_funcop\_1 X0 X2) (k16\_funcop\_1 X1 X3) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (X3 = k1\_enumset1 \\ & X0 X1 X2) \Leftrightarrow (\forall X4. (X4 \in X3) \Leftrightarrow \neg (X4 \neq X0) \wedge ((X4 \neq X1) \wedge (X4 \neq X2))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & k1\_borsuk\_7 X0 X1 X2 X3 X4 X5 = k1\_funct\_4 (k4\_funct\_4 X0 X1 X3 X4) ( \\ & \quad k16\_funcop\_1 X2 X5) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X0 = X1) \Leftrightarrow ((k9\_xtuple\_0 X0 = \\ & \quad k9\_xtuple\_0 X1) \wedge (\forall X2. (X2 \in k9\_xtuple\_0 X0) \Rightarrow (k1\_funct\_1 \\ & \quad X0 X2 = k1\_funct\_1 X1 X2)))))) \end{aligned} \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (v1\_xcmplx\_0 X5) \Rightarrow (\forall X6. ((v1\_relat\_1 X6) \wedge (v1\_funct\_1 X6)) \Rightarrow \\ & (((k9\_xtuple\_0 X6 = k1\_enumset1 X0 X1 X5) \wedge ((k1\_funct\_1 X6 X0 = X2) \wedge \\ & ((k1\_funct\_1 X6 X1 = X3) \wedge (k1\_funct\_1 X6 X5 = X4)))) \Rightarrow (X6 = k1\_borsuk\_7 \\ & \quad X0 X1 X5 X2 X3 X4))) \end{aligned}$$