

## t23\_hahnban1

(TMEtsVsSNGhScvqoRtJx8xWDbuW8QJtf7CL)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_complfld : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_hahnban1 : \iota \Rightarrow \iota$  be given. Let  $g2\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_rlvect\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_hahnban1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0) X0)))) \wedge (m1\_subset\_1 X2 X0)) \Rightarrow (\forall X3. \\ & \forall X4. \forall X5. (g2\_algstr\_0 X0 X1 X2 = g2\_algstr\_0 X3 X4 X5) \Rightarrow \\ & ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (u2\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_algstr\_0 X0) \Rightarrow ((v1\_funct\_1 (u1\_algstr\_0 X0)) \wedge \\ & ((v1\_funct\_2 (u1\_algstr\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ & u1\_struct\_0 X0)) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 (u1\_algstr\_0 \\ & X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ & u1\_struct\_0 X0)) (u1\_struct\_0 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_vectsp\_1 X0 k1\_complfld)) \Rightarrow \\ & ((v1\_rlvect\_1 (k10\_hahnban1 X0)) \wedge (l1\_rlvect\_1 (k10\_hahnban1 \\ & X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_vectsp\_1 X0 k1\_complfld)) \Rightarrow \\ & (\forall X1.((v1\_rlvect\_1 X1) \wedge (l1\_rlvect\_1 X1)) \Rightarrow ((X1 = k10\_hahnban1 \\ & X0) \Leftrightarrow ((g2\_algstr\_0 (u1\_struct\_0 X1) (u1\_algstr\_0 X1) (u2\_struct\_0 \\ & X1) = g2\_algstr\_0 (u1\_struct\_0 X0) (u1\_algstr\_0 X0) (u2\_struct\_0 \\ & X0)) \wedge (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 (u1\_struct\_0 X0)) \Rightarrow (k1\_binop\_1 (u1\_rlvect\_1 X1) X2 X3 = k4\_vectsp\_1 \\ & k1\_complfld X0 (k1\_hahnban1 X2 k6\_numbers) X3)))))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_vectsp\_1 X0 k1\_complfld)) \Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) \\ & k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) k1\_numbers)))))) \Rightarrow ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 \\ & (k10\_hahnban1 X0)) k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 (k10\_hahnban1 X0)) k1\_numbers)))))) \end{aligned}$$