

# t2\_goboard1 (TM- SEWKn4dow3Wi2aXZQq49ZSYnt81BufjFW)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k7\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((v1\_matrix\_1 \\ & X1) \wedge (m1\_finseq\_1 X1 (k3\_finseq\_2 X0))) \wedge (v7\_ordinal1 X2))) \Rightarrow ( \\ & k9\_matrix\_1 X0 X1 X2 = k7\_matrix\_1 X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((v1\_matrix\_1 \\ & X1) \wedge (m1\_finseq\_1 X1 (k3\_finseq\_2 X0))) \wedge (v7\_ordinal1 X2))) \Rightarrow ( \\ & k8\_matrix\_1 X0 X1 X2 = k6\_matrix\_1 X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (5)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X0) \wedge (((v1\_matrix\_1 \ X1) \wedge (m1\_finseq\_1 \ X1 \ (k3\_finseq\_2 \ X0))) \wedge (v7\_ordinal1 \ X2))) \Rightarrow (m2\_finseq\_1 \ (k7\_matrix\_1 \ X0 \ X1 \ X2) \ X0) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X0) \wedge (((v1\_matrix\_1 \ X1) \wedge (m1\_finseq\_1 \ X1 \ (k3\_finseq\_2 \ X0))) \wedge (v7\_ordinal1 \ X2))) \Rightarrow (m2\_finseq\_1 \ (k6\_matrix\_1 \ X0 \ X1 \ X2) \ X0) \quad (9)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1. ((v1\_matrix\_1 \ X1) \wedge \\ (m2\_finseq\_1 \ X1 \ (k3\_finseq\_2 \ X0))) \Rightarrow (\forall X2. (v7\_ordinal1 \\ X2) \Rightarrow (\forall X3. (m2\_finseq\_1 \ X3 \ X0) \Rightarrow ((X3 = k7\_matrix\_1 \ X0 \ X1 \ X2) \Leftrightarrow \\ ((k3\_finseq\_1 \ X3 = k3\_finseq\_1 \ X1) \wedge (\forall X4. (v7\_ordinal1 \ X4) \Rightarrow \\ ((X4 \in k4\_finseq\_1 \ X1) \Rightarrow (k1\_funct\_1 \ X3 \ X4 = k3\_matrix\_1 \ X0 \ X1 \ X4 \ X2)))))))))) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1. ((v1\_matrix\_1 \ X1) \wedge \\ (m2\_finseq\_1 \ X1 \ (k3\_finseq\_2 \ X0))) \Rightarrow (\forall X2. (v7\_ordinal1 \\ X2) \Rightarrow (\forall X3. (m2\_finseq\_1 \ X3 \ X0) \Rightarrow ((X3 = k6\_matrix\_1 \ X0 \ X1 \ X2) \Leftrightarrow \\ ((k3\_finseq\_1 \ X3 = k1\_matrix\_1 \ X1) \wedge (\forall X4. (v7\_ordinal1 \ X4) \Rightarrow \\ ((X4 \in k2\_finseq\_1 \ (k1\_matrix\_1 \ X1)) \Rightarrow (k1\_funct\_1 \ X3 \ X4 = k3\_matrix\_1 \\ X0 \ X1 \ X2 \ X4)))))))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (13)$$

**Theorem 1**

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1. ((v1\_matrix\_1 \ X1) \wedge \\ (m2\_finseq\_1 \ X1 \ (k3\_finseq\_2 \ X0))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X3. (m2\_subset\_1 \ X3 \ k1\_numbers \\ k5\_numbers) \Rightarrow (((X3 \in k4\_finseq\_1 \ X1) \wedge (X2 \in k2\_finseq\_1 \ (k1\_matrix\_1 \\ X1))) \Rightarrow (k1\_funct\_1 \ (k9\_matrix\_1 \ X0 \ X1 \ X2) \ X3 = k1\_funct\_1 \ (k8\_matrix\_1 \\ X0 \ X1 \ X3) \ X2)))))) \end{aligned}$$