

# l32\_goboard1 (TMKB- VGhX7XEfVxtFHSmKD2RyCpuqg4M8XFc)

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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  $r1\_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (3)$$

Assume the following.

$$\forall X0. \exists X1. (m1\_finseq\_1 X1 X0) \wedge ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_xboole\_0 X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_finseq\_1 X1)))))) \quad (4)$$

Assume the following.

$$\forall X0. v1\_xboole\_0 (k6\_finseq\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_xboole\_0 (k9\_xtuple\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.m2\_finseq\_1 (k6\_finseq\_1 X0) X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow (\forall X2.((v1\_matrix\_1 \\ & X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 X0))) \Rightarrow ((r1\_goboard1 X0 X1 X2) \Leftrightarrow \\ & ((\forall X3.(m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (\neg(X3 \in k4\_finseq\_1 \\ & X1) \wedge (\forall X4.(m2\_subset\_1 X4 k1\_numbers k5\_numbers) \Rightarrow (\forall X5. \\ & (m2\_subset\_1 X5 k1\_numbers k5\_numbers) \Rightarrow (\neg(k4\_tarski X4 X5 \in k2\_matrix\_1 \\ & X2) \wedge (k7\_partfun1 X0 X1 X3 = k3\_matrix\_1 X0 X2 X4 X5)))))) \wedge (\forall X3. \\ & (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (((X3 \in k4\_finseq\_1 X1) \wedge \\ & (k2\_nat\_1 X3 np\_1 \in k4\_finseq\_1 X1)) \Rightarrow (\forall X4.(m2\_subset\_1 \\ & X4 k1\_numbers k5\_numbers) \Rightarrow (\forall X5.(m2\_subset\_1 X5 k1\_numbers \\ & k5\_numbers) \Rightarrow (\forall X6.(m2\_subset\_1 X6 k1\_numbers k5\_numbers) \Rightarrow \\ & (\forall X7.(m2\_subset\_1 X7 k1\_numbers k5\_numbers) \Rightarrow (((k4\_tarski \\ & X4 X5 \in k2\_matrix\_1 X2) \wedge ((k4\_tarski X6 X7 \in k2\_matrix\_1 X2) \wedge ((k7\_partfun1 \\ & X0 X1 X3 = k3\_matrix\_1 X0 X2 X4 X5) \wedge (k7\_partfun1 X0 X1 (k2\_nat\_1 X3 \\ & np\_1) = k3\_matrix\_1 X0 X2 X6 X7)))))) \Rightarrow (k2\_xcmplx\_0 (k18\_complex1 \\ & (k6\_xcmplx\_0 X4 X6)) (k18\_complex1 (k6\_xcmplx\_0 X5 X7)) = np\_1)))))))))) \\ & \quad (8) \end{aligned}$$

**Theorem 1**

$$\forall X0.\forall X1.((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 X0))) \Rightarrow (r1\_goboard1 X0 (k6\_finseq\_1 X0) X1)$$