

# t11\_goboard1

(TMG87v9dwoVMhbscfXq8EDk2P3bsu3cRVDj)

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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  $v3\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $v2\_goboard1 : \iota \Rightarrow o$  be given. Let  $v3\_goboard1 : \iota \Rightarrow o$  be given. Let  $v4\_goboard1 : \iota \Rightarrow o$  be given. Let  $v5\_goboard1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow ((\neg(\neg r1\_xxreal\_0 \\
& \quad X0 np\_1) \wedge (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(X0 = k2\_nat\_1 X1 np\_1) \wedge (\neg r1\_xxreal\_0 X1 k6\_numbers)))) \wedge (\neg \\
& \quad (\exists X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \wedge ((X0 = k2\_nat\_1 \\
& \quad X1 np\_1) \wedge (\neg r1\_xxreal\_0 X1 k6\_numbers)))) \wedge (r1\_xxreal\_0 X0 np\_1)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& \quad (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. ((\neg v3\_relat\_1 \\
& \quad X2) \wedge ((v1\_matrix\_1 X2) \wedge ((v2\_goboard1 X2) \wedge ((v3\_goboard1 X2) \wedge \\
& \quad ((v4\_goboard1 X2) \wedge ((v5\_goboard1 X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 \\
& \quad (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (((X0 \in k2\_finseq\_1 \\
& \quad (k1\_matrix\_1 X2)) \wedge (k1\_matrix\_1 X2 = k2\_nat\_1 X1 np\_1)) \Rightarrow ((r1\_xxreal\_0 \\
& \quad X1 k6\_numbers) \vee (k1\_matrix\_1 (k3\_goboard1 X2 X0) = X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (4)$$

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.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (8)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_finseq\_1 X0)\wedge(v1\_matrix\_1 X0))))\Rightarrow(m1\_subset\_1 (k1\_matrix\_1 X0) k5\_numbers) \quad (10)$$

**Theorem 1**

$$\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers)\Rightarrow(\forall X1.((\neg v3\_relat\_1 X1)\wedge((v1\_matrix\_1 X1)\wedge((v2\_goboard1 X1)\wedge((v3\_goboard1 X1)\wedge((v4\_goboard1 X1)\wedge((v5\_goboard1 X1)\wedge(m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2))))))))))\Rightarrow((X0 \in k2\_finseq\_1 (k1\_matrix\_1 X1))\Rightarrow((r1\_xxreal\_0 (k1\_matrix\_1 X1) np\_1)\vee(k1\_matrix\_1 X1 = k2\_nat\_1 (k1\_matrix\_1 (k3\_goboard1 X1 X0) np\_1))))))$$