

# t2\_goboard3

(TMdr6t1Bgv7nyy9x9nB3hCuZnMP8t2zEJKC)

October 27, 2020

Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v3\_relat\_1 : \iota \Rightarrow o$  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  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  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  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_topreal1 : \iota \Rightarrow o$  be given. Let  $r1\_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v3\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 X1) \wedge ((v2\_goboard1 \\
& X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge ((v5\_goboard1 X1) \wedge \\
& (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow \\
& (\neg(\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow (\neg(X2 \in k4\_finseq\_1 \\
& X0) \wedge (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 \\
& X4 k5\_numbers) \Rightarrow (\neg(k4\_tarski X3 X4 \in k2\_matrix\_1 X1) \wedge (k7\_partfun1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X0 X2 = k3\_matrix\_1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)) X1 X3 X4)))))) \wedge ((v2\_funct\_1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v3\_topreal1 X0) \wedge ((v1\_topreal1 X0) \wedge (\forall X2.(m2\_finseq\_1 \\
& X2 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\neg(r1\_goboard1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)) X2 X1) \wedge ((v2\_funct\_1 X2) \wedge ((v2\_topreal1 X2) \wedge \\
& ((v3\_topreal1 X2) \wedge ((v1\_topreal1 X2) \wedge ((k3\_topreal1 np\_2 X0 = \\
& k3\_topreal1 np\_2 X2) \wedge ((k7\_partfun1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X0 np\_1 = k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X2 np\_1) \wedge ((k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 ( \\
& k3\_finseq\_1 X0) = k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X2 (k3\_finseq\_1 X2)) \wedge (r1\_xxreal\_0 (k3\_finseq\_1 X0) (k3\_finseq\_1 \\
& X2)))))))))))))) \Rightarrow
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_finset\_1 X0) \Rightarrow ((v1\_finset\_1 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ((v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \tag{7}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & ((v4\_topreal1 X0) \Leftrightarrow ((v2\_funct\_1 X0) \wedge ((r1\_xxreal\_0 np\_2 (k3\_finseq\_1 \\ & X0)) \wedge ((v2\_topreal1 X0) \wedge ((v3\_topreal1 X0) \wedge (v1\_topreal1 X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.((v3\_ordinal1 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (v7\_ordinal1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_card\_1 X0) \Rightarrow (v3\_ordinal1 X0) \quad (15)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 X1) \wedge ((v2\_goboard1 \\ & X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge ((v5\_goboard1 X1) \wedge \\ & (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow \\ & (\neg(\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow (\neg(X2 \in k4\_finseq\_1 \\ & X0) \wedge (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & X4 k5\_numbers) \Rightarrow (\neg(k4\_tarski X3 X4 \in k2\_matrix\_1 X1) \wedge (k7\_partfun1 \\ & (u1\_struct\_0 (k15\_euclid np\_2)) X0 X2 = k3\_matrix\_1 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X1 X3 X4)))))) \wedge ((v4\_topreal1 X0) \wedge (\forall X2. \\ & (m2\_finseq\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (\neg(r1\_goboard1 \\ & (u1\_struct\_0 (k15\_euclid np\_2)) X2 X1) \wedge ((v4\_topreal1 X2) \wedge (( \\ & k3\_topreal1 np\_2 X0 = k3\_topreal1 np\_2 X2) \wedge ((k7\_partfun1 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X0 np\_1 = k7\_partfun1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) X2 np\_1) \wedge ((k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ & X0 (k3\_finseq\_1 X0) = k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ & X2 (k3\_finseq\_1 X2)) \wedge (r1\_xxreal\_0 (k3\_finseq\_1 X0) (k3\_finseq\_1 \\ & X2)))))))))) \end{aligned}$$