

# t9\_goboard7 (TMPDStgopLQXTHNohWRkn- BzGXefY9k44Hmv)

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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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k13\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (( \\ & \neg r1\_xxreal\_0 (k1\_nat\_1 X1 np\_1) X0) \Leftrightarrow (r1\_xxreal\_0 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k5\_numbers) \Rightarrow (\forall X2.((\neg v3\_relat\_1 X2) \wedge ((v1\_matrix\_1 \\
& X2) \wedge ((v2\_goboard1 X2) \wedge ((v3\_goboard1 X2) \wedge ((v4\_goboard1 X2) \wedge \\
& ((v5\_goboard1 X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (((r1\_xxreal\_0 np\_1 X0) \wedge (r1\_xxreal\_0 \\
& np\_1 X1)) \Rightarrow ((r1\_xxreal\_0 (k3\_finseq\_1 X2) X0) \vee ((r1\_xxreal\_0 \\
& (k1\_matrix\_1 X2) X1) \vee (k3\_rlvect\_1 (k15\_euclid np\_2) (k3\_matrix\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X2 X0 X1) (k3\_matrix\_1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)) X2 (k2\_nat\_1 X0 np\_1) (k2\_nat\_1 X1 np\_1)) = \\
& k3\_rlvect\_1 (k15\_euclid np\_2) (k3\_matrix\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X2 X0 (k2\_nat\_1 X1 np\_1)) (k3\_matrix\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X2 (k2\_nat\_1 X0 np\_1) X1))))))
\end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.k3\_finseq\_2 X0 = k13\_finseq\_1 X0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 \\
X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow \\
(k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \tag{9}$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \tag{10}$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ X0)))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 \ X1 \ X0) \Rightarrow ((v1\_relat\_1 \ X1) \wedge (v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1)) \quad (13)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow (m2\_subset\_1 \ (k3\_finseq\_1 \ X0) \ k1\_numbers \ k5\_numbers) \quad (15)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge ((v1\_finseq\_1 \ X0) \wedge (v1\_matrix\_1 \ X0)))) \Rightarrow (m1\_subset\_1 \ (k1\_matrix\_1 \ X0) \ k5\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (17)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 \ X1 \ k1\_numbers \ k5\_numbers) \Rightarrow (\forall X2.((\neg v3\_relat\_1 \\ & X2) \wedge ((v1\_matrix\_1 \ X2) \wedge ((v2\_goboard1 \ X2) \wedge ((v3\_goboard1 \ X2) \wedge \\ & ((v4\_goboard1 \ X2) \wedge ((v5\_goboard1 \ X2) \wedge (m2\_finseq\_1 \ X2 \ (k3\_finseq\_2 \\ & (u1\_struct\_0 \ (k15\_euclid \ np\_2)))))))))) \Rightarrow (((r1\_xxreal\_0 \ np\_1 \\ & X0) \wedge ((r1\_xxreal\_0 \ (k2\_nat\_1 \ X0 \ np\_1) \ (k3\_finseq\_1 \ X2)) \wedge ((r1\_xxreal\_0 \\ & np\_1 \ X1) \wedge (r1\_xxreal\_0 \ (k2\_nat\_1 \ X1 \ np\_1) \ (k1\_matrix\_1 \ X2)))))) \Rightarrow \\ & (k1\_rlvect\_1 \ (k15\_euclid \ np\_2) \ (k3\_rlvect\_1 \ (k15\_euclid \ np\_2) \\ & (k3\_matrix\_1 \ (u1\_struct\_0 \ (k15\_euclid \ np\_2)) \ X2 \ X0 \ X1) \ (k3\_matrix\_1 \\ & (u1\_struct\_0 \ (k15\_euclid \ np\_2)) \ X2 \ (k2\_nat\_1 \ X0 \ np\_1) \ (k2\_nat\_1 \\ & X1 \ np\_1))) \ (k10\_real\_1 \ np\_1 \ np\_2) = k1\_rlvect\_1 \ (k15\_euclid \\ & np\_2) \ (k3\_rlvect\_1 \ (k15\_euclid \ np\_2) \ (k3\_matrix\_1 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)) \ X2 \ X0 \ (k2\_nat\_1 \ X1 \ np\_1)) \ (k3\_matrix\_1 \ (u1\_struct\_0 \\ & (k15\_euclid \ np\_2)) \ X2 \ (k2\_nat\_1 \ X0 \ np\_1) \ X1)) \ (k10\_real\_1 \ np\_1 \\ & np\_2)))))) \end{aligned}$$