

## t24\_goboard9

(TMW89dmRV4iSaT3osVXjw992EFrGyahg3nb)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_goboard5 : \iota \Rightarrow o$  be given. Let  $v2\_goboard5 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $k1\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $k2\_goboard9 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_5 : \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (k3\_goboard9 X0 = k2\_goboard9 (k1\_goboard9 \\ & X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge ( \\ & (v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (k1\_goboard9 X0 = k3\_finseq\_5 X0) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge ( \\ & (v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (k1\_goboard9 (k1\_goboard9 X0) = X0) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow ((v1\_relat\_1 (k3\_finseq\_5 X0)) \wedge ((v1\_funct\_1 (k3\_finseq\_5 X0)) \wedge ((\neg v3\_funct\_1 (k3\_finseq\_5 X0)) \wedge (v1\_finseq\_1 (k3\_finseq\_5 X0))))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \quad (6)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge (v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m1\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow ((\neg v1\_xboole\_0 (k1\_goboard9 X0)) \wedge ((v1\_finseq\_6 (k1\_goboard9 X0) (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 (k1\_goboard9 X0)) \wedge ((v2\_topreal1 (k1\_goboard9 X0)) \wedge ((v1\_goboard5 (k1\_goboard9 X0)) \wedge ((v2\_goboard5 (k1\_goboard9 X0)) \wedge (m2\_finseq\_1 (k1\_goboard9 X0) (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \quad (7)$$

**Theorem 1**

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (k3\_goboard9 (k1\_goboard9 X0) = k2\_goboard9 X0)$$