

t169\_xxreal\_1

(TMab1SxZy79q6gQBMGgM5e9qaiYH8xcKApT)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k2\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ (k2\_xboole\_0 (k2\_xxreal\_1 X0 X1) (k2\_xxreal\_1 X1 X2) = k2\_xxreal\_1 \\ X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow ((\neg r1\_xxreal\_0 X1 X0) \Rightarrow (k2\_xxreal\_1 X0 X1 = k2\_xboole\_0 (k1\_tarski X0) (k4\_xxreal\_1 X0 X1)))) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow (k1\_xxreal\_1 X0 X1 = k2\_xboole\_0 (k2\_xxreal\_1 X0 X1) (k1\_tarski X1)))) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow (k1\_xxreal\_1 X0 X1 = k2\_xboole\_0 (k4\_xxreal\_1 X0 X1) (k2\_tarski X0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow( (r1\_xxreal\_0 X0 X1)\vee(r1\_xxreal\_0 X1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (7)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(v1\_xxreal\_0 X0)\Rightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow(\forall X2. \\ &(v1\_xxreal\_0 X2)\Rightarrow((r1\_xxreal\_0 X0 X1)\Rightarrow((r1\_xxreal\_0 X2 X1)\vee( \\ &k2\_xboole\_0 (k1\_xxreal\_1 X0 X1) (k4\_xxreal\_1 X1 X2) = k2\_xxreal\_1 \\ &X0 X2)))))) \end{aligned}$$