

# l99\_xxreal\_3 (TMXwtvxEsDTWDon- mpt66wAGS5SBczX7xCa4)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k2\_xxreal\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_xboole\_0 X0) \wedge (v1\_xxreal\_0 X0)) \wedge \\ & (v1\_xxreal\_0 X1)) \Rightarrow ((v1\_xboole\_0 (k4\_xxreal\_3 X0 X1)) \wedge (v1\_xxreal\_0 \\ & (k4\_xxreal\_3 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$v1\_xxreal\_0 k2\_xxreal\_0 \quad (4)$$

Assume the following.

$$\neg v1\_xreal\_0 k1\_xxreal\_0 \quad (5)$$

Assume the following.

$$v1\_xxreal\_0 k1\_xxreal\_0 \quad (6)$$

Assume the following.

$$\neg v1\_xreal\_0 k2\_xxreal\_0 \quad (7)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\
& (v1\_xxreal\_0 X2) \Rightarrow (((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow ((X2 = \\
& k4\_xxreal\_3 X0 X1) \Leftrightarrow (\exists X3.(v1\_xcmplx\_0 X3) \wedge (\exists X4. \\
& (v1\_xcmplx\_0 X4) \wedge ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = k3\_xcmplx\_0 X3 X4)))))) \wedge \\
& ((\neg(\neg(v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \wedge (((v2\_xxreal\_0 X0) \wedge \\
& (v2\_xxreal\_0 X1)) \vee ((v3\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X1)))) \wedge (\neg( \\
& X2 = k4\_xxreal\_3 X0 X1) \Leftrightarrow (X2 = k1\_xxreal\_0))) \wedge (\neg(\neg(v1\_xreal\_0 \\
& X0) \wedge (v1\_xreal\_0 X1)) \wedge (((v2\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X1)) \vee \\
& ((v3\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X1)))) \wedge (\neg(X2 = k4\_xxreal\_3 X0 X1) \Leftrightarrow \\
& (X2 = k2\_xxreal\_0))) \wedge (\neg(\neg(v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \wedge \\
& ((\neg(\neg(v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \wedge (((v2\_xxreal\_0 X0) \wedge ( \\
& v2\_xxreal\_0 X1)) \vee ((v3\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X1)))) \wedge (\neg( \\
& \neg(v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \wedge (((v2\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 \\
& X1)) \vee ((v3\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X1)))) \wedge (\neg(X2 = k4\_xxreal\_3 \\
& X0 X1) \Leftrightarrow (X2 = k6\_numbers))))))))) \\
\end{aligned} \tag{8}$$

Assume the following.

$$k1\_xxreal\_0 = k1\_numbers \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Leftrightarrow (X0 \in k1\_numbers) \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\
& k4\_xxreal\_3 X0 X1 = k4\_xxreal\_3 X1 X0) \\
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(((v1\_xxreal\_0 X0) \wedge (\neg(v2\_xxreal\_0 X0) \wedge (\neg(v3\_xxreal\_0 \\
& X0)))) \Rightarrow ((v1\_xboole\_0 X0) \wedge (v1\_xxreal\_0 X0)) \\
\end{aligned} \tag{12}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\neg \\
& (k4\_xxreal\_3 X0 X1 \in k1\_numbers) \wedge ((\neg(X0 \in k1\_numbers) \wedge (X1 \in k1\_numbers)) \wedge \\
& (k4\_xxreal\_3 X0 X1 \neq k6\_numbers)))) \\
\end{aligned}$$