l89_xxreal_3 (TMaBdojvXYcvdaNbPMarsvG27Nf1ij32RQY)

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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 $k6\_numbers : \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v3\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X0)) \Rightarrow (X0 = X1))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (k4\_xxreal\_3\ X0\ k6\_numbers = k6\_numbers) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (\neg v2\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (\neg v2\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (\neg v3\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (v2\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (v2\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (v2\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (v3\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (v3\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (v2\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (v2\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (v3\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (v3\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(\\ v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow((v3\_xxreal\_0\ X0)\Leftrightarrow(\neg r1\_xxreal\_0\\ k6\_numbers\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow((v2\_xxreal\_0\ X0)\Leftrightarrow(\neg r1\_xxreal\_0\\ X0\ k6\_numbers)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(\\ k4\_xxreal\_3\ X0\ X1 = k4\_xxreal\_3\ X1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0)\wedge(v3\_xxreal\_0\ X0))\Rightarrow((\neg v1\_xboole\_0\\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(\neg v2\_xxreal\_0\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0)\wedge((\neg v3\_xxreal\_0\ X0)\wedge(\neg v1\_xreal\_0\\ X0)))\Rightarrow((v1\_xxreal\_0\ X0)\wedge(v2\_xxreal\_0\ X0)) \tag{12}$$

Theorem 1

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow((\\ k4\_xxreal\_3\ X0\ X1 = k6\_numbers)\Rightarrow((v1\_xreal\_0\ X0)\vee(X1 = k6\_numbers))))$$