

## t96\_xreal\_1

(TMX8VgE4wyuzrXrAiGcvjCYeJLbN6PLQocH)

October 27, 2020

Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (((r1\_xxreal\_0 \\ & k6\_numbers X0) \wedge (r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 k6\_numbers \\ & X2) \wedge (r1\_xxreal\_0 X2 X3)))) \Rightarrow (r1\_xxreal\_0 (k3\_xcmplx\_0 X0 X2) ( \\ & k3\_xcmplx\_0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\neg(r1\_xxreal\_0 k6\_numbers X0) \wedge (\neg(r1\_xxreal\_0 \\ & X2 X1) \wedge (r1\_xxreal\_0 (k2\_xcmplx\_0 X0 X2) X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 k6\_numbers) \wedge (r1\_xxreal\_0 \\ & X1 X2)) \Rightarrow (r1\_xxreal\_0 (k2\_xcmplx\_0 X1 X0) X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & r1\_xxreal\_0 X0 X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow ( \\ & r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (\neg(r1\_xxreal\_0 \\ & X2 X1) \wedge (r1\_xxreal\_0 (k3\_xcmplx\_0 X2 X0) (k3\_xcmplx\_0 X1 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k3\_xcmplx\_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow( (r1\_xxreal\_0 X0 X1)\vee(r1\_xxreal\_0 X1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (9)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow(\forall X2. \\ &(v1\_xreal\_0 X2)\Rightarrow(\forall X3.(v1\_xreal\_0 X3)\Rightarrow(\neg(r1\_xxreal\_0 \\ &k6\_numbers X0)\wedge((r1\_xxreal\_0 k6\_numbers X1)\wedge(\neg r1\_xxreal\_0 \\ &X2 X0)\wedge(\neg r1\_xxreal\_0 X3 X1)\wedge(r1\_xxreal\_0 (k3\_xcmplx\_0 X2 X3) \\ &(k3\_xcmplx\_0 X0 X1)))))))))) \end{aligned}$$