

t14\_xreal\_1

(TMGz8fSsQFuvE64yKriDxCtU3Cgkq4f4zTx)

October 27, 2020

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

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k6\_xcmplx\_0 X0 X1)) \quad (4)$$

**Theorem 1**

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