

# l13\_xreal\_1

(TMMj9k6hNE5qQbRRsNaERobwdddNTCaoKEe)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\ & X1 X0) \wedge (r1\_xxreal\_0 X2 X3) \wedge (r1\_xxreal\_0 (k2\_xcmplx\_0 X1 X3) ( \\ & k2\_xcmplx\_0 X0 X2))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (3)$$

## Theorem 1

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