

t4\_xreal\_1 (TM-  
Mvu8MXwaY1etSs7AL15Kr4FpURS5B9NYY)

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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  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\neg \forall X1.(v1\_xreal\_0 X1) \Rightarrow (r1\_xxreal\_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow (r1\_xxreal\_0 X0 X2)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (4)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\exists X2.(v1\_xreal\_0 X2) \wedge ((\neg r1\_xxreal\_0 X0 X2) \wedge (\neg r1\_xxreal\_0 X1 X2))))$$