

t277\_xxreal\_1 (TMTbskdGqkTDi-  
AmW57gStNQhm7qpXny3e2U)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((r1\_xxreal\_0 \\ & X0 X1) \Rightarrow (r1\_xboole\_0 (k2\_xxreal\_1 X2 X0) (k2\_xxreal\_1 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski X0 X1) \wedge (r1\_xboole\_0 X1 X2)) \Rightarrow (r1\_xboole\_0 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((r1\_tarski ( \\ & k2\_xxreal\_1 X0 X1) (k1\_xxreal\_1 X2 X3)) \Rightarrow ((r1\_xxreal\_0 X1 X0) \vee ( \\ & (r1\_xxreal\_0 X2 X0) \wedge (r1\_xxreal\_0 X1 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((r1\_xxreal\_0 \\ & X0 X1) \Rightarrow ((r1\_xxreal\_0 X3 X2) \vee (r1\_tarski (k1\_xxreal\_1 X1 X2) (k2\_xxreal\_1 \\ & X0 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (r1\_tarski (k2\_xxreal\_1 X0 X1) (k1\_xxreal\_1 X0 X1))) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((\neg r1\_xxreal\_0 \\ & X1 X0) \Rightarrow (r1\_xboole\_0 (k1\_xxreal\_1 X2 X0) (k2\_xxreal\_1 X1 X3)))))) \end{aligned}$$