

t1\_xxreal\_0 (TM-  
RGAM8wMGezVBqy5EyuREKLGttriuP9jLdd)

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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  $k2\_arytm\_2 : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k11\_arytm\_3 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $k2\_xxreal\_0 : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$r1\_xboole\_0 \ k2\_arytm\_2 \ (k2\_zfmisc\_1 \ (k1\_tarski \ k11\_arytm\_3) \ k2\_arytm\_2) \quad (1)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \ X1 \ k2\_arytm\_2) \Rightarrow (((r1\_arytm\_2 \ X0 \ X1) \wedge (r1\_arytm\_2 \ X1 \ X0)) \Rightarrow (X0 = X1))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(\neg(\neg r1\_xboole\_0 \ X0 \ X1) \wedge (\forall X2.\neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2.(X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 \ X0 \ X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski \ X0 \ X1 = k4\_tarski \ X2 \ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 \ X0) \wedge (v1\_xxreal\_0 \ X1)) \Rightarrow (r1\_xxreal\_0 \ X0 \ X0) \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$k11\_arytm\_3 = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$\neg k1\_xxreal\_0 \in k2\_zfmisc\_1 (k1\_tarski k6\_numbers) k2\_arytm\_2 \quad (8)$$

Assume the following.

$$\neg k2\_xxreal\_0 \in k2\_arytm\_2 \quad (9)$$

Assume the following.

$$\neg r1\_xxreal\_0 k1\_xxreal\_0 k2\_xxreal\_0 \quad (10)$$

Assume the following.

$$v1\_xxreal\_0 k2\_xxreal\_0 \quad (11)$$

Assume the following.

$$v1\_xxreal\_0 k1\_xxreal\_0 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ & ((X0 \in k2\_arytm\_2) \wedge (X1 \in k2\_arytm\_2)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (\exists X2. \\ & (m1\_subset\_1 X2 k2\_arytm\_2) \wedge (\exists X3.(m1\_subset\_1 X3 k2\_arytm\_2) \wedge \\ & ((X0 = X2) \wedge ((X1 = X3) \wedge (r1\_arytm\_2 X2 X3)))))) \wedge (((X0 \in k2\_zfmisc\_1 \\ & (k1\_tarski k6\_numbers) k2\_arytm\_2) \wedge (X1 \in k2\_zfmisc\_1 (k1\_tarski \\ & k6\_numbers) k2\_arytm\_2)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (\exists X2.( \\ & m1\_subset\_1 X2 k2\_arytm\_2) \wedge (\exists X3.(m1\_subset\_1 X3 k2\_arytm\_2) \wedge \\ & ((X0 = k4\_tarski k6\_numbers X2) \wedge ((X1 = k4\_tarski k6\_numbers X3) \wedge \\ & (r1\_arytm\_2 X3 X2)))))) \wedge (\neg(\neg(X0 \in k2\_arytm\_2) \wedge (X1 \in k2\_arytm\_2)) \wedge \\ & ((\neg(X0 \in k2\_zfmisc\_1 (k1\_tarski k6\_numbers) k2\_arytm\_2) \wedge (X1 \in \\ & k2\_zfmisc\_1 (k1\_tarski k6\_numbers) k2\_arytm\_2)) \wedge (\neg(r1\_xxreal\_0 \\ & X0 X1) \Leftrightarrow (\neg(\neg(X1 \in k2\_arytm\_2) \wedge (X0 \in k2\_zfmisc\_1 (k1\_tarski k6\_numbers) \\ & k2\_arytm\_2)) \wedge ((X0 \neq k2\_xxreal\_0) \wedge (X1 \neq k1\_xxreal\_0)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$k2\_xxreal\_0 = k4\_tarski k6\_numbers k1\_numbers \quad (14)$$

Assume the following.

$$k1\_xxreal\_0 = k1\_numbers \quad (15)$$

**Theorem 1**

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1))$$