

t203\_xxreal\_1 (TMbLFD-  
ShCC3BY6W3xrcWCz2PgaZSYTc1KuA)

October 27, 2020

Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k2\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k4\_xboole\_0 X0 (k2\_xboole\_0 X0 X1) = k1\_xboole\_0 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 (k4\_xboole\_0 X0 X2) (k4\_xboole\_0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0. k2\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ (k2\_xboole\_0 (k3\_xxreal\_1 X0 X1) (k3\_xxreal\_1 X1 X2) = k3\_xxreal\_1 \\ X0 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (( \\ \neg r1\_xxreal\_0 X1 X0) \Rightarrow (k6\_subset\_1 (k3\_xxreal\_1 X0 X1) (k1\_tarski \\ X1) = k4\_xxreal\_1 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow (k6\_subset\_1 (k1\_xxreal\_1 X0 X1) (k1\_tarSKI X0) = k3\_xxreal\_1 X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow (k1\_xxreal\_1 X0 X1 = k2\_xboole\_0 (k1\_tarSKI X0) (k3\_xxreal\_1 X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (11)$$

**Theorem 1**

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow ((r1\_xxreal\_0 X1 X2) \Rightarrow ((r1\_xxreal\_0 X1 X0) \vee (k6\_subset\_1 (k3\_xxreal\_1 X0 X2) (k1\_tarSKI X1) = k2\_xboole\_0 (k4\_xxreal\_1 X0 X1) (k3\_xxreal\_1 X1 X2)))))))$$