

t179_xxreal_1
(TML3kitdMr1f6xYwuY3nPhabvXKqN7NrsDc)

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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 $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\neg r1_xxreal_0 X1 X0) \Rightarrow (k1_xxreal_1 X1 X0 = k1_xboole_0))) \quad (1)$$

Assume the following.

$$\forall X0.k2_xboole_0 X0 k1_xboole_0 = X0 \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow ((r1_xxreal_0 X2 X1) \vee (k2_xboole_0 \\ (k2_xxreal_1 X0 X2) (k3_xxreal_1 X1 X3) = k1_xxreal_1 X0 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ (k2_xboole_0 (k1_xxreal_1 X0 X1) (k3_xxreal_1 X1 X2) = k1_xxreal_1 \\ X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ (k2_xboole_0 (k2_xxreal_1 X0 X1) (k1_xxreal_1 X1 X2) = k1_xxreal_1 \\ X0 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ & X0 X1) \wedge ((r1_xxreal_0 X0 X2) \wedge ((r1_xxreal_0 X1 X3) \wedge (r1_xxreal_0 \\ & X2 X3)))))) \Rightarrow (k2_xboole_0 (k2_xboole_0 (k2_xxreal_1 X0 X1) (k1_xxreal_1 \\ & X1 X2)) (k3_xxreal_1 X2 X3) = k1_xxreal_1 X0 X3)))))) \end{aligned}$$