

t13_arrow
(TMYdf3GmR5tjJYUCM6AwQjUoM2Ku5SDm9KV)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arrow : \iota \Rightarrow \iota$ be given. Let $k3_arrow : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_arrow : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\ (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. (m2_subset_1 X3 (\\ k2_arrow X0) (k3_arrow X0) \Rightarrow ((r1_arrow X3 X1 X2) \wedge (r1_arrow X3 \\ X2 X1)) \Rightarrow (X1 = X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\ (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. (m1_subset_1 X3 (\\ k2_arrow X0) \Rightarrow ((r1_arrow X3 X1 X2) \vee (r1_arrow X3 X2 X1)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_subset_1 X1 (k2_arrow \\ X0) (k3_arrow X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k2_arrow X0)) \Rightarrow \\ ((\forall X3. (m1_subset_1 X3 X0) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ X0) \Rightarrow (\neg(\neg r1_arrow X1 X4 X3) \wedge (r1_arrow X2 X4 X3)))))) \Leftrightarrow (\forall X3. \\ (m1_subset_1 X3 X0) \Rightarrow (\forall X4. (m1_subset_1 X4 X0) \Rightarrow ((\neg(\neg r1_arrow \\ X1 X4 X3) \wedge (r1_arrow X2 X4 X3)) \wedge (\neg(\neg r1_arrow X2 X4 X3) \wedge (r1_arrow \\ X1 X4 X3)))))) \end{aligned}$$