

l97_xboole_1
(TMcF6YqXMBjeXvNcJ3BUVxM6WVGF7vuCaR8)

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Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X0 \in k5_xboole_0 X1 X2) \Leftrightarrow (\neg(X0 \in X1) \Leftrightarrow (X0 \in X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (3)$$

Theorem 1

$$\forall X0. \forall X1. r1_xboole_0 (k3_xboole_0 X0 X1) (k5_xboole_0 X0 X1)$$