

t5_arrow

(TMbT96ke1DxNtr7zKVPY82xYDVUuHFCSZBG)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arrow : \iota \Rightarrow \iota$ be given. Let $r1_arrow : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (\\ k2_arrow X0)) \Rightarrow ((r1_arrow X3 X1 X2) \vee (r1_arrow X3 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\neg v1_xboole_0 (k2_arrow X0)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r1_arrow X0 X1 X2) \Leftrightarrow (k4_tarski X1 X2 \in X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow \\ (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 \\ X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(X1 = k2_arrow X0) \Leftrightarrow (\\ \forall X2.(X2 \in X1) \Leftrightarrow ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X0))) \wedge ((\forall X3.(m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 \\ X4 X0) \Rightarrow ((k4_tarski X3 X4 \in X2) \vee (k4_tarski X4 X3 \in X2)))))) \wedge (\forall X3. \\ (m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (\forall X5. \\ (m1_subset_1 X5 X0) \Rightarrow (((k4_tarski X3 X4 \in X2) \wedge (k4_tarski X4 X5 \in X2)) \Rightarrow \\ (k4_tarski X3 X5 \in X2)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k2_arrow X0)) \Rightarrow (v1_relat_1 X1)) \quad (6)$$

Theorem 1

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