

t4_arrow (TM- LzFVjk9RY7UiBmuBTkDuvTzyuN54MF4wE)

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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.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\neg v1_xboole_0 (k2_arrow X0)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r1_arrow X0 X1 X2) \Leftrightarrow (k4_tarski X1 X2 \in X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 X1))) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(X1 = k2_arrow X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \wedge ((\forall X3.(m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow ((k4_tarski X3 X4 \in X2) \vee (k4_tarski X4 X3 \in X2)))))) \wedge (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (\forall X5.(m1_subset_1 X5 X0) \Rightarrow (((k4_tarski X3 X4 \in X2) \wedge (k4_tarski X4 X5 \in X2)) \Rightarrow (k4_tarski X3 X5 \in X2)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k2_arrow X0) \Rightarrow (v1_relat_1 X1))) \quad (5)$$

Theorem 1

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