

t36_interval1

(TMQYRvETxbkmkYwq1HhRsErDfjNSqnzAbzs)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_interval1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_interval1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge ((v1_interval1 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge ((v1_interval1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (k2_setfam_1 (k3_setfam_1 X1 X2) X2 = X2) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 \\ & X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 \\ & X0)))) \Rightarrow ((r1_interval1 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval1 X1 X0)) \Rightarrow ((\neg v1_xboole_0 X1) \wedge ((v1_interval1 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 \\ & X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 \\ & X0)))) \Rightarrow (\neg v1_xboole_0 (k3_interval1 X0 X1 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 \\ & X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 \\ & X0)))) \Rightarrow (m1_interval1 (k3_interval1 X0 X1 X2) X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval X1 X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_interval \\ & X2 X0)) \Rightarrow (k4_interval X0 X1 X2 = k2_setfam.1 X1 X2))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval X1 X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_interval \\ & X2 X0)) \Rightarrow (k3_interval X0 X1 X2 = k3_setfam.1 X1 X2))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval X1 X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_interval \\ & X2 X0)) \Rightarrow (r1_interval X0 (k4_interval X0 (k3_interval X0 X1 X2) X2) \\ & X2))) \end{aligned}$$