

t45_interval1
(TMPYz5dyyKrHZSW6eQuzDvp82DCm7PwUtNY)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_interval : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_interval : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_interval : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_interval : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Let $k9_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & ((\neg v1_xboole_0 (k2_interval X0 \\ & (k2_subset_1 X0) (k2_subset_1 X0))) \wedge (m1_interval (k2_interval \\ & X0 (k2_subset_1 X0) (k2_subset_1 X0)) X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval X1 X0)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_interval \\ & X2 X0)) \Rightarrow (k9_interval X0 X1 X2 = k2_interval X0 (k7_subset_1 X0 (k5_interval \\ & X0 X1) (k6_interval X0 X2)) (k7_subset_1 X0 (k6_interval X0 X1) (\\ & k5_interval X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_interval X1 X0))) \Rightarrow (m1_subset_1 (k6_interval X0 X1) (k1_zfmisc_1 \\ X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_interval X1 X0))) \Rightarrow (m1_subset_1 (k5_interval X0 X1) (k1_zfmisc_1 \\ X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.m1_subset_1 (k2_subset_1 X0) (k1_zfmisc_1 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (m1_interval1 (k2_interval1 X0 X1 X2) X0) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((X2 = k6_interval1 X0 X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 X0)) \wedge (X1 = k2_interval1 X0 X3 X2)))))) \quad (8)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((X2 = k5_interval1 X0 X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 X0)) \wedge (X1 = k2_interval1 X0 X2 X3)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.k2_subset_1 X0 = X0 \quad (11)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (k10_interval1 X0 X1 = k9_interval1 X0 (k2_interval1 X0 (k2_subset_1 X0) (k2_subset_1 X0)) X1)) \quad (12)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (k10_interval1 X0 X1 = k2_interval1 X0 (k3_subset_1 X0 (k6_interval1 X0 X1)) (k3_subset_1 X0 (k5_interval1 X0 X1))))$$