

t49_interval
(TMbVcPYyb1TFvN7Uv39NgfCzFgv7R1ijCEN)

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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 $k3_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_subset_1 : \iota \Rightarrow \iota$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. k2_subset_1 X0 = k3_subset_1 X0 (k1_subset_1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ (m1_interval X1 X0)) \Rightarrow (k10_interval X0 X1 = k2_interval X0 (k3_subset_1 \\ X0 (k6_interval X0 X1)) (k3_subset_1 X0 (k5_interval X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((\neg v1_xboole_0 (k2_interval X0 \\ (k1_subset_1 X0) (k1_subset_1 X0))) \wedge (m1_interval (k2_interval \\ X0 (k1_subset_1 X0) (k1_subset_1 X0)) X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ (m1_interval X1 X0)) \Rightarrow (r1_interval X0 (k3_interval X0 X1 X1) X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0))\wedge((\neg v1_xboole_0 X2)\wedge(m1_interval1 X2 X0))))\Rightarrow((r1_interval1 X0 X1 X2)\Leftrightarrow(X1 = X2)) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\exists X1.(m1_interval1 X1 X0)\wedge(\neg v1_xboole_0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0))\wedge((\neg v1_xboole_0 X2)\wedge(m1_interval1 X2 X0))))\Rightarrow(\neg v1_xboole_0 (k3_interval1 X0 X1 X2)) \quad (9)$$

Assume the following.

$$\forall X0.v1_xboole_0 (k1_subset_1 X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0))\wedge((\neg v1_xboole_0 X2)\wedge(m1_interval1 X2 X0))))\Rightarrow(m1_interval1 (k3_interval1 X0 X1 X2) X0) \quad (11)$$

Assume the following.

$$\forall X0.m1_subset_1 (k1_subset_1 X0) (k1_zfmisc_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0)))\Rightarrow((\neg v1_xboole_0 (k10_interval1 X0 X1))\wedge(m1_interval1 (k10_interval1 X0 X1) X0)) \quad (13)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow((X2 = k6_interval1 X0 X1)\Leftrightarrow(\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 X0))\wedge(X1 = k2_interval1 X0 X3 X2)))))) \quad (14)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_interval1 X1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow((X2 = k5_interval1 X0 X1)\Leftrightarrow(\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 X0))\wedge(X1 = k2_interval1 X0 X2 X3)))))) \quad (15)$$

Assume the following.

$$\forall X0.k2_subset_1 X0 = X0 \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\neg \forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_interval X1 X0)) \Rightarrow (k10_interval X0 (k3_interval X0 X1 X1) = k2_interval \\ & X0 (k1_subset_1 X0) (k1_subset_1 X0))) \end{aligned}$$