# t51_interva1 (TM-bZrS7sVuz3UeJw11TcKZ8GVcrCAwMQuLf)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_interva1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_subset\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ 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. Let $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_subset\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)) \wedge (v1\_xboole\_0\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{3}$$

Assume the following.

$$\forall X0.k4\_xboole\_0\ k1\_xboole\_0\ X0 = k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_interva1\ X1\ X0)) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge (m1\_interva1\ X2\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ X0)) \Rightarrow (((X1 = k2\_interva1\ X0\ X3\ X4) \wedge (X2 = k2\_interva1\ X0\ X5\ X6)) \Rightarrow (k9\_interva1\ X0\ X1\ X2 = k2\_interva1\ X0\ (k7\_subset\_1\ X0\ X3\ X6)\ (k7\_subset\_1\ X0\ X4\ X5)))))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1))\Leftrightarrow(r1\_tarski\ X0\ X1) \tag{6}$$

Assume the following.

$$\forall X0.k4\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1)\wedge(\forall X2.\neg(X2 \in X1)\wedge(\forall X3.\neg(X3 \in X1)\wedge(X3 \in X2))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1)\Rightarrow((v1\_xboole\_0\ X1)\vee(X0 \in X1)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(\forall X3.(X3 \in k1\_interva1\ X0\ X1\ X2)\Leftrightarrow((r1\_tarski\ X1\ X3)\wedge(r1\_tarski\ X3\ X2)))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(k7\_subset\_1\ X0\ X1\ X2 = k4\_xboole\_0\ X1\ X2) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))\Rightarrow(k2\_interva1\ X0\ X1\ X2 = k1\_interva1\ X0\ X1\ X2) \tag{13}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{14}$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1\ X1\ X0 \tag{15}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k2\_subset\_1\ X0)\ (k1\_zfmisc\_1\ X0) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))\Rightarrow(m1\_interva1\ (k2\_interva1\ X0\ X1\ X2)\ X0) \tag{17}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k1\_subset\_1\ X0)\ (k1\_zfmisc\_1\ X0) \tag{18}$$

Assume the following.

$$\forall X0.k2\_subset\_1\ X0 = X0 \tag{19}$$

Assume the following.

$$\forall X0.k1\_subset\_1\ X0 = k1\_xboole\_0 \tag{20}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(\neg X1 \in X0) \tag{22}$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\neg\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_interva1\ X1\ X0))\Rightarrow(k9\_interva1\ X0\ X1\ X1 = k2\_interva1\ X0\ (k1\_subset\_1\ X0)\ (k1\_subset\_1\ X0)))$$