

# t11\_interva1 (TMVuthwWFWKZo- RiA2HxZEYQkhXwimX663ud)

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

$$\forall X0. \forall X1. \neg(v1\_xboole\_0 X0) \wedge ((X0 \neq X1) \wedge (v1\_xboole\_0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow ((k1\_interval X0 X1 X2 \neq k1\_xboole\_0) \Rightarrow \\ & (r1\_tarski X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (\neg(k1\_interval X0 X1 X2 = k1\_xboole\_0) \wedge \\ & (r1\_tarski X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k2\_interval X0 X1 X2 = \\ & k1\_interval X0 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_interval1 \ X1 \ X0) \Rightarrow (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k1\_zfmisc\_1 \ X0))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ X0))) \Rightarrow (m1\_interval1 \ (k2\_interval1 \ X0 \ X1 \ X2) \ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k1\_zfmisc\_1 \ X0))) \Rightarrow ((m1\_interval1 \ X1 \ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ X0)) \wedge (\exists X3.(m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ X0)) \wedge (X1 = k1\_interval1 \ X0 \ X2 \ X3)))) \tag{10}$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 \ X1) \wedge (m1\_interval1 \ X1 \ X0)) \Leftrightarrow (\exists X2.(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ X0)) \wedge (\exists X3.(m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ X0)) \wedge ((r1\_tarski \ X2 \ X3) \wedge (X1 = k2\_interval1 \ X0 \ X2 \ X3))))))$$